

FEBRUARY 28, 1942

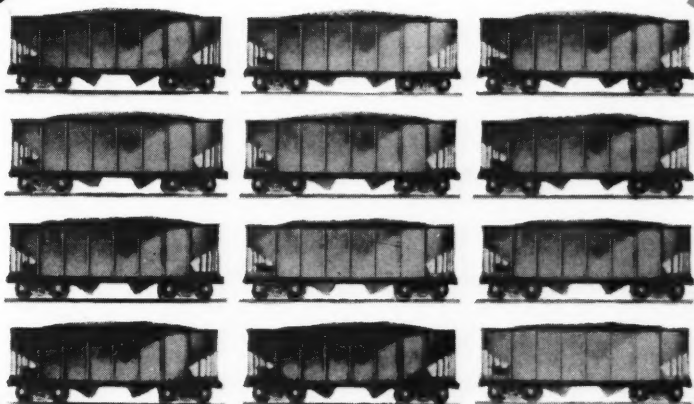
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Railway Age

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Vol. 112

February 28, 1942

No. 9

In This Issue

Organization and Functions of the Military Rail- way Service, by Col. Carl R. Gray, Jr. . Page 440

An abstract of an address presented before the Western Society of Engineers, Chicago, by Colonel Gray in his capacity as manager of the Military Railway Service. In this address he explains the organization of the battalions and the manner in which they will function under combat conditions.

Modernistic Rail-Bus Station the "Talk of the Town" . 442

This article describes the new structure of the D. & R. G. W. at Salida, Colo., which provides attractive facilities for patrons and consolidates terminal offices, thus cutting down future maintenance and repair on 4 old buildings.

Status of the Steam Locomotive in Great Britain . . . 445

Methods of testing, availability of British locomotives and the prospects for the future are discussed by W. A. Stanier (chief mechanical engineer of the London, Midland & Scottish) in this address before the (British) Institution of Mechanical Engineers—the first part of which appeared in the February 21 issue of Railway Age.

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The Week at a Glance

WILL MODERN POWER PAY?:

The problem of motive power for the British railways after the war raises financial and operating questions, as much as those involving engineering. For instance, newer forms of power (Diesel, turbine, electric traction) involve large capital expenditures. To earn a return on additional capital, average daily mileage of expensive types of locomotives must be high—but operating conditions in the U. K. make it impossible to get very high daily mileage out of most engines. These and other considerations bearing on motive power policy are discussed in a paper, reviewed in this issue, by the L. M. S.' Chief Mechanical Engineer, W. A. Stanier.

ARMY RAILROADERS READY:

Railroad officers and experienced employees are prepared at any time the call may come to go right into action operating a considerable mileage of military railroads. All functions of railroad work are provided for, from construction and equipment maintenance right down to actual train operation. Colonel Carl R. Gray, Jr. (executive vice-president, C. St. P. M. & O.), who organized the service, has described it in an address which is reported elsewhere in these pages.

EASY COME, EASY GO: More money

in the Retirement Board treasury than is needed to pay current unemployment benefits is affecting the Board like a kid who finds a quarter—i. e., its main concern is to hit on some quick and luxurious way to whoop off the windfall. So the Board gives sympathetic ear to a union suggestion that this surplus be used to pay sick benefits. To lay this dough by for future hard times—or to refund some of it to the fellow who had to put it up—is a course of action unthinkable to an agency whose pleasant work is the scattering of other people's money.

UNION-OWNED PIPE LINE: A

company, half of the stock in which is owned by the Machinists' Union, is seeking authority to build a 1,050-mile pipe line from Wichita Falls to Savannah—provided Uncle Jesse Jones advances a 100 per cent loan of public money to pay construction costs. Thus a new and promising addition is made to the many ingenious methods being employed to turn the wealth and control of the country over to the labor unions.

MYSTERY CLEARED UP: Asked

why he had testified in favor of the St. Lawrence seaway, saying that its construction was required in the interest of national defense, William Knudsen is said to have replied that "They" asked him to. Such is a report published by the well-informed correspondent, Frank R. Kent, in a recent syndicated column. Other support that the ditch has had from respectable citizens in and around the government (few of whom, incidentally, know any more about the project than a pig does about

Sunday school) must have been secured in the same way as that of loyal Old Bill Knudsen. "They" were desperate for character witnesses and these well-meaning public servants, with their heads full of military matters, have hypnotically done as "They" urged. Thus vanishes the only disinterested backing the ditch has received.

SCOTT BROS. CAN CHOOSE: The Pennsylvania's trucking affiliate, Scott Brothers, Inc., has been offered by the I. C. C.'s division 5 the alternatives of being a contract or a common carrier. The regulators won't permit it to be both.

WAR OR SOCIOLOGY?: The National War Labor Board was set to hold a hearing on the T. P. & W. strike on February 27—its alleged purposes being to prevent labor troubles from interfering with national defense. However, President McNear explained in advance to the Board that his road was handling all defense traffic offered to it. The case is one where the unions are trying to force a carrier to adopt featherbedding practices, requiring an arbitrarily large number of men to do work which can easily be performed by fewer. If that is a way to win a war which hinges on productive efficiency, it will contradict all evidence to date. The War Labor Board by its action in this case will give a pretty good idea as to whether it is concerned primarily with an effective war effort, or rather, is aiming at so-called "social objectives."

HANDY FOR PROPAGANDA: The Retirement Board has issued some more of its complex wage statistics—a convenient source for misrepresentation as to actual earnings of railroad employees. The Board doesn't count pay in excess of \$300 a month in its figures; and its averages do not show what a man would make who worked steadily throughout the year. By this process of understatement it arrives at \$1,859 as the "average" 1940 pay of employees who worked every month in the year (but maybe only a few days in each month); and at \$1,333 for those who did any work at all during the year. These statistics, however justified for the peculiar purposes of the Board, are absolutely meaningless as a measure of the wages of a full-time railroad employee; and, of course, would not be so used by honest people.

130,000 FREIGHT CARS?: Some 130,000 freight cars and 3,000 "Victory" troop-carrying passenger cars are required by the railroads in a car-building program for the last eight months of the year. This is reported to be the tentative ODT estimate of railroad needs, which, however, the ODT refuses officially either to deny or confirm. The War Production Board is said to be skeptical as to whether they can scrape up enough steel, castings particularly, for so many cars, especially since the builders may be called upon to build a lot of rolling stock for allied nations.

TRAIN ACCIDENTS TREND UP:

Spectacular train accidents reported in the press seldom accurately reflect actual safety conditions on the railroads. Such reports may be frequent when the safety record is improving and absent when safety is diminishing. The leading editorial herein draws attention to the fact that only 18 passengers lost their lives in train accidents in 1941 as compared to 1940, despite the fact that traffic was much heavier last year. On the other hand, the aggregate figures reflecting comprehensive railroad safety performance in recent months do reveal trends which need energetic managerial attention. The ratio of train accidents per million train-miles rose 39 per cent from 1938 to 1941, and the ratio of employee casualties to volume of employment also mounted substantially.

STATION REPLACES DEPOT: For

an expenditure just about equivalent to that required for badly-needed repairs on four old buildings at Salida, Colo., the Rio Grande has built itself a new rail-bus station (with office facilities) which is just about the most distinguished structure in the entire town. An illustrated article herein describes this architecturally attractive edifice which, placed strategically at the end of an important thoroughfare, admirably obeys the injunction not to hide its light (neon) beneath a bushel.

SAVING SCARCE MATERIAL:

A. A. R. committees have been working out ways for the carriers to cut down their consumption of such materials as copper, tin and rubber and have hit upon a lot of thrifty makeshifts, as is disclosed in a report in the news pages in this issue.

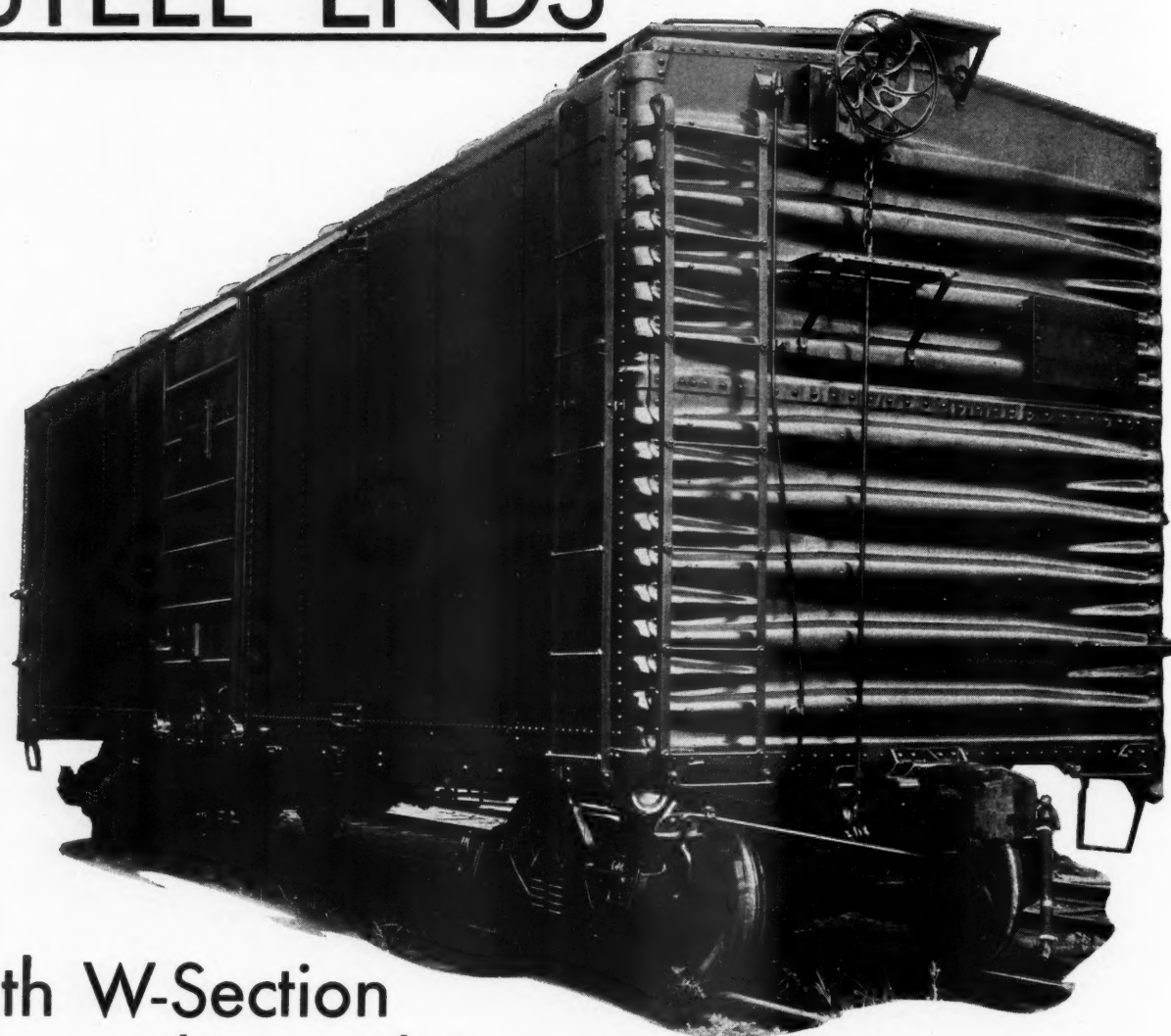
LAND GRANT RATES: The opinion

in favor of complete repeal of land grant rates appears to be almost unanimous, as is revealed in the report herein of hearings on the repealer—the only adverse views being those of employees in the War department who have to figure out the complex rates and who, if the complexity were ended, might have to seek other employment. Director Eastman of the ODT said that because of present heavy military traffic, the rates are costing the carriers around 25 millions annually and they hit roads which did not get land grants but which have to meet the rates to share in the traffic. Commissioner Mahaffie recommended permanent repeal, not mere war-time suspension.

NORTHWEST OIL RATES: The

"umbrella" rates established by the I. C. C. in the Northwest Petroleum Case (I. & S. 4614), which was sustained when attacked in the courts, have been slightly modified to allow the railroads to line up interstate with intrastate rates. Dissenting Commissioner Porter says the new decision is "tantamount to a reversal of our findings in I. & S. 4614." For the sake of the Commission's reputation for economic wisdom and logical analysis, your observer trusts that the disgruntled gentleman is right.

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RAILWAY AGE

What Is Happening to the Railroad Safety Record?

In recent months a series of railroad accidents have received rather spectacular publicity, creating in the minds of a portion of the public, as well as in those of some railroad men, the cumulative impression that all is not going well with railroad safety. Passengers may be reassured, however, that, quite contrary to any increase in hazards to their lives when they travel by rail, the exact opposite has been true. In the entire year 1941 fatalities to passengers in train accidents totaled only 18, as compared with 66 in 1940. There was, to be sure, an increase in the number of passengers injured, but the increase was but slightly greater than the increase in passenger traffic (passengers carried one mile). That is, the passenger who rode the rails in 1941 ran only about the same minute hazard of injury that he incurred in 1940, while his chances of being killed were only a fraction of the microscopic risks he ran in 1940.

In the consideration of the railway accident problem there must always be borne in mind three important facts. First, this problem has been very largely solved;

with 1929 the number of employees killed in proportion to the number in service declined 21 per cent, and in the two decades ending with 1939 it declined 51 per cent. The accident record in 1941 was not as good as in immediately preceding years, but it continued to be much better than prior to 1929, in spite of the greatest increases and changes in traffic last year that ever occurred. Finally, the railways had the largest average number of employees in 1941 since 1931—200,000 more than in 1938—necessarily including many who were new and inexperienced.

Action Needed to Check These Trends

Exhaustive analysis of the 1941 safety performance of the railroads, in relation to traffic volume, is not yet possible because complete traffic statistics for last year are not yet available. Some significant trends can, however, be discerned from the statistics thus far issued. These trends, while they do not give the traveling public anything to worry about, do strongly sug-

Table 1—Accidents in Relation to Traffic Volume and Employment

	Train-Miles (000)	Train Accidents	*Train Accidents Per Million Train-Miles	No. of Employees	Employee Fatalities	*Fatalities per 10,000 Employees	Employees Injured	*Injuries per 10,000 Employees
1929.....	1,178,354	17,185	14.58	1,662,463	1,348	8.11	60,090	361.5
1930.....	1,081,814	12,313	11.38	1,488,353	935	6.28	35,325	237.3
1931.....	951,009	8,052	8.47	1,260,758	644	5.11	22,954	182.1
1932.....	812,730	5,770	7.10	1,031,914	557	5.40	17,414	168.8
1933.....	778,364	5,623	7.22	970,893	500	5.14	15,583	160.5
1934.....	807,891	6,023	7.46	1,008,995	526	5.21	16,990	168.4
1935.....	817,123	6,551	8.02	994,078	555	5.58	16,348	164.4
1936.....	891,432	8,286	9.30	1,065,970	669	6.28	21,871	205.2
1937.....	918,490	8,412	9.16	1,115,077	666	5.97	23,629	211.9
1938.....	816,517	5,682	6.96	939,505	479	5.10	16,163	172.0
1939.....	843,249	6,074	7.20	987,943	499	5.05	16,954	171.6
1940.....	873,794	7,106	8.13	1,026,956	533	5.19	17,903	174.3
1941.....	968,946	9,403	9.70	1,139,645	754	6.62	25,249	221.6

* The ratios in this column, while comparable with each other to indicate trends, are not entirely accurate as absolute measures of railroad casualty rates. The figures on employment, for example, exclude switching and terminal companies, while casualty figures include them. Complete figures are not yet available, but those used here are uniform throughout each column and the ratios derived from them reveal the trends as well as will those drawn from more detailed statistics, not yet available.

second, the number of accidents always tends to increase when there are great increases and changes in traffic; and, third, accidents always are principally due to "man failures," the number of which tends to increase when the number of new and inexperienced employees increases. The first statistics given in the accompanying Table I are for 1929. In the decade ending with 1929 the number of railway passengers killed in proportion to the number carried declined 35 per cent, and in the two decades ending with 1939 it declined 60 per cent. Likewise, in the decade ending

gest to railroad operating officers the desirability of increasing the intensity of their supervision in the interests of safety, especially as traffic is still increasing, and there is the prospect, owing to the shortage of rubber for highway transportation, of a still much greater increase in railway traffic, both freight and passenger, and many further changes in both. Carloadings increased 12 per cent in January, which recent experience indicates caused an increase of about 25 per cent in tons carried one mile. They have been increasing at a slightly lower rate in February, but this ap-

parently is temporary because due to conversion of the automobile and some other industries to production of armaments. Railway passenger traffic increased 30 per cent in November, the last month for which statistics are available, and owing to the rubber shortage and other conditions may reasonably be expected to increase more rapidly during 1942 until demands upon the railways exceed their full capacity.

Such facts, when considered in connection with the fact that train accidents were on the increase in 1941 as Table 1 herewith shows, warn the railroad industry that its safety record is being threatened. Train accidents are on the increase, as Table 1 reveals. From 1938 to 1941, for instance, train-miles—freight and passenger combined—rose from 817 million to 969 million (Class I railroads, excluding switching and

the rise in traffic is necessary. For example, the percentage increase in the rate of accidents per million train-miles from 1938 to 1941 was more than double the percentage increase in train-miles. From these figures, a rule-of-thumb inference might be drawn that it would have required double the intensity of supervision in 1941, compared with 1938, to have held the 1941 accident rate at the 1938 level.

Ratio of Officers to Employees Has Declined

No exact quantitative measure can be put upon the intensity of supervision, of course. In November, 1941, the Class I railroads (exclusive of switching and terminal companies) had 12,432 executive, general and division officers and assistants. In November, 1938,

Table 2—Train Accidents in Ratio to Train-Miles, 1941 Compared with 1940

	1940			1941		
	Train-Miles (000)	Train Accidents	Train Accidents per Million Train-Miles	Train-Miles (000)	Train Accidents	Train Accidents per Million Train-Miles
Jan.....	75,481	764	10.12	77,672	670	8.63
Feb.....	68,742	607	8.83	71,006	622	8.76
Mar.....	72,129	578	8.01	80,078	738	9.23
Apr.....	69,351	490	7.07	74,224	592	7.98
May.....	71,292	467	6.55	80,111	726	9.06
June.....	69,679	507	7.28	79,717	780	9.78
July.....	72,796	556	7.64	83,723	825	9.85
Aug.....	74,638	551	7.38	84,716	858	10.13
Sept.....	72,199	560	7.76	82,099	812	9.89
Oct.....	76,780	603	7.85	87,072	947	10.88
Nov.....	73,032	687	9.41	81,890	915	11.17
Dec.....	77,693	736	9.47	86,608	918	10.60

terminal companies)—which is 18.6 per cent. Comparing the same years, train accidents (all railways) climbed from 5,682 to 9,403, or 65 per cent. The train accident rate per million train-miles mounted 39 per cent from 1938 to 1941.

It is not to be expected, of course, in a period of rising traffic, that train accidents should increase only in direct proportion to additional train-miles. The hazards of accident rise disproportionately when a larger number of trains is run, and decline disproportionately when train-miles fall. For example, if there is one train making a round-trip on a branch line daily, about its only chance of accident is derailment. If an additional round-trip is added to that branch line, not only is the hazard of derailment doubled, but two potential collisions daily are added to the risks. This condition, which works against the safety record when traffic is on the increase, works in its favor when traffic declines. For instance, note in Table I the amazing decline in train accidents from 1929 to 1932. Train-miles were reduced 31 per cent, but train accidents declined by 66 per cent, and the accident rate per million train-miles was pulled down by more than half.

The increase in the train accident rate in 1941, disproportionately to the number of trains operated, is, therefore, just such a tendency as could be pre-supposed. But it is not a favorable tendency, and the mathematical laws which govern it also point to the conclusion that, to counteract it, a **supervisory effort of an intensity proportionately much greater than**

they had 11,740 such officers. The increase in 1941 over 1938 was less than 6 per cent, while the train-miles requiring supervision rose almost 19 per cent; and the number of employees increased 27 per cent. In November, 1938, each railway officer averaged 82 employees in his charge; in November, the number of employees had risen to 98 for each officer. Even though the intensity and quality of supervision cannot be demonstrated to vary proportionately to the number of subordinates for whom each officer is responsible, it still seems likely that the attention which each officer, on the average, was able to devote to the instruction and direction of the average employee was less in 1941 than was the case in 1938. Table 2 sets forth the train accidents per million train-miles by months, 1940 and 1941, and, despite occasional exceptions, indicates a persistent tendency of the train accident rate to rise throughout that period.

The recent upward tendency in train accidents, however, does not belie the fact that the record is still excellent. For example, the rate of 1941 train accidents per million train-miles was 33 per cent lower than in 1929 and 15 per cent less than in 1930—which earlier years, of all those shown in Table 1, afford the nearest comparisons with 1941 in point of total volume of traffic. The 1941 record of employee safety, compared with 1929 and 1930, is even more remarkable. For example, the number of injuries per 10,000 employees was 39 per cent less in 1941 than in 1929, and 7 per cent less than in 1930. The average employee in 1941

was in 18 per cent less danger of death by accident than he was in 1929.

Inexperienced Employees Require More Supervision

The extremely low rate of employee casualties at the bottom of the depression in the 'Thirties is not fairly comparable to the similar index in recent times, first, because so many younger employees had been furloughed at that time and only those of long experience at their jobs were still working (in contrast to the many new employees now on railroad payrolls); second, the fewer employees during the depression, plus fewer trains and fewer machines being operated, afforded a disproportionately small number of opportunities for accident; third, at the bottom of the depression, many employees were working part time, as contrasted to full time and overtime in 1941. A fairer ratio of employee hazards could be derived from relating accidents to man-hours rather than to employment, but man-hours figures for the complete year 1941 are not available at this writing.

The recent railroad accident record discloses nothing to arouse the fears or the misgivings of the traveling public—indeed quite the contrary. It does, however, reveal tendencies which deserve the early and vigorous attention of railroad officers.

Crossing Protection Controls and Train Speeds

In numerous towns and small cities the railroads have installed automatically-controlled flashing-light signals, and, in some instances, gates also, to protect

the users of the streets and highways which cross the tracks. In consideration of the protection thus afforded, the local authorities in many of these communities have agreed to allow trains to be operated through their towns at speeds considerably higher than previously permitted, and the automatic track circuit approach sections have been so re-arranged that at the crossings the signals will operate at least 20 seconds prior to the arrival of a train moving the authorized maximum speed. If gates are used, the controls are so arranged that the arms will be in the lowered position before the train arrives at a crossing.

With this arrangement of control sections, proper protection is provided by the generally-accepted 20-second warning operation of the signals, except in those instances when trains exceed the speed limit authorized. As a general rule, the control sections are planned to provide margin for train speeds slightly higher than that established, but if the speed should be still higher, the warning operation of the signals may be less than the standard 20-second minimum. This is not a theoretical discussion of what might happen, but a statement from actual observation. For this reason, it is important that corrective measures be taken promptly, rather than after these facts are brought out in a lawsuit based on an accident.

The lengthening of the warning operation of the signals for train speeds at higher than the authorized maximum will cause the signals to operate too long for trains at lower speeds. The logical remedy, therefore, is for operating officers to see that train speeds do not exceed the maximum in the specified territories. This is especially important when the railways are endeavoring to enlist the co-operation of authorities of other municipalities in lifting speed restrictions that are increasingly burdensome in these days of record traffic and demands for maximum track capacities.

Comment on the competitive traffic situation, usually appearing in this space, will be found on page 452

A Democratic Senator Appraises the Administration's Conduct of the War

"I want at least one voice raised in this body against what has taken place right here in Washington since this war started. It becomes more and more difficult to sit silently in this chamber in the face of undertakings throughout the government which in my judgment are enough at times to cause the soldier in Bataan peninsula to throw down his gun in disgust.

"Those men are fighting for the perpetuation of our democratic institutions. And while they are dying out there—for that is what they are doing—here at home we are destroying the very thing they give their blood and their efforts to perpetuate. This government is an overgrown monstrosity from top to bottom, an extravagant, wasteful bureaucracy in the midst of this whole war prosecution and every Senator knows it.

"Even now domestic bureaus are multiplying and agencies are being expanded which are remote from the conduct of the war effort. I am not satisfied with the industrial situation, either. I think strikes ought to end and stay ended until the men in the front lines get guns.

From a speech by Senator Tydings on February 13

"I am discouraged that there is not enough courage in the high leadership of this Administration to bring that kind of a law into being. Yesterday—for two long hours we had Dean Landis, of the Harvard Law School, before our committee, touching on the question of civilian defense. He is an able man, a learned man, but as unfit for that office as I am to be the primate of the Church of England.

"We cannot control these appointments. Even if a man fails in one place, they put him in another place, in a higher position, and at a better salary. Are we going to run a social reformatory in this government or are we going to run a war?

"Debt piled upon debt, peacetime bureau upon peacetime bureau! Why not do away with the CCC? Why not do away with the National Youth Administration and with all the old WPA except where some extreme case created by war makes it wise and expedient, fair and just to maintain it? I do not believe that we are going to get anywhere by sweeping the dirt of this confusion behind the doors until we have another catastrophe."

Organization and Functions of the Military Railway Service

Only railway men are being taken into the battalions that are being formed as a part of the railway military service, and because every phase of railway operation, transportation, engineering and maintenance, is represented, there is widespread interest in the objectives of the organization. As manager, Military Railway Service, Colonel Gray will be the operating head of the organization as the various battalions are inducted into the service. In a paper which was presented before the Western Society of Engineers, at Chicago, on February 10, of which this is an abstract, Colonel Gray explains the organization of the battalions and the manner in which they will function under combat conditions. For the historical aspects of the Military Railway Service, see the article by Lieutenant-Colonel Lewis T. Ross, on page 257, of the *Railway Age* of January 24.

By Colonel Carl R. Gray, Jr.

Manager, Military Railway Service, and
Executive Vice-President, Chicago,
St. Paul, Minneapolis & Omaha

organized or in process of organizing, at the time of the signing of the armistice, an additional force of 14,000, making a total of 83,000 men, of which 1,970 were officers, or 1.72 per cent of all the forces under arms.

The National Defense Act of 1916 and 1920 has been hailed as our first national military policy. The military railway service was organized by the chief of engineers. The railway operating battalion was taken as the basic unit, and 32 of these units were formed by the trunk lines of the United States. Officers were commissioned from among appropriate ranks of the sponsoring roads. But the nation's interest in its military forces waned, and the railway units were largely left to their own devices. Some, in remarkable fashion, continued at near full strength, kept up by the interest and energy of individuals; others practically disintegrated. With the imminence of war in Europe, however, the chief of engineers determined to re-vitalize the military railway service and the section was re-established as a separate unit.

Since military railways are an engineer supply organization, the departmental-division organization is essential, that is, transportation, stores, engineering, equipment and administration in headquarters. But the basic unit for transportation and maintenance remains the railway operating battalion, to handle a small railway division of 75 to 100 miles, depending, of course, upon the density of traffic to be handled.

How They Are Organized

Engineer headquarters, railway, corresponds to the operating vice-president's organization on any standard American railroad; railway grand division headquarters correspond to any general manager's or general superintendent's office force and organization; the railway operating battalion, as I have said before, is the basis and heart of the service; and the railway shop battalion does the heavy overhauling of locomotives and cars for the operating battalions. The engineer headquarters, railway, according to the current tables of organization, consists of 24 officers and 216 enlisted men, and is divided into a headquarters detachment, a transportation department, an equipment department, a track and structures department, and a stores department.

The officers, who are assigned with military ranks from first lieutenant to brigadier general, carry appropriate railroad designated titles. The commander of the military railway service is known as the manager. The chief of the transportation department is known as the general superintendent of operations, and he has in his department an assistant general superintendent, a super-

TRANSPORTATION is as vital a necessity of the army as material or personnel in the complicated field operations that modern warfare requires, for in mechanized warfare a vast amount of supplies and material not heretofore used is required by troops, both on land and in the air. Again, this type of warfare is quicker. It strikes in unexpected places with sudden fury, and, to be able to do this, men and material must be transported quickly over long distances.

Armies of old transported their supplies on their backs or on the backs of their slaves and captured prisoners, on horses and by boats on waterways and, to a large extent, they lived off the countries that they conquered. The use of railroads for military purposes is only as old as the railroads themselves. America's first use of railroads in war came with our Civil War in 1861. In that year our railroads were comparatively new and the advantages of their use were not fully understood by army commanders. These commanders at first refused to get any great distance from their supply bases if they had to depend on railroads, and the railroads of that day were not any too well equipped for military traffic. There were various gages, and the lines were vulnerable to interruption and destruction by raiding parties.

Railway Battalions Organized

On February 3, 1917, the government authorized the organization of the 3rd Engineers, afterwards changed to the 13th, and its personnel came from six Chicago railroads—one company from each. It was organized when we entered the World War on April 6, 1917. War department general orders authorized, on May 14, 1917, eight more railroad regiments with the colonel and adjutant to be regular army officers and the remainder to come from among railroad men. In all, the director-general of military railroads organized from among the railroads of America and sent overseas 51 railway units, composed of 69,000 officers and enlisted men, and had

intendent water service, a superintendent terminals, and a superintendent telegraph and telephone. The chief of the equipment department is known as the chief mechanical officer, and his assistants are a general superintendent of motive power, a superintendent of cars, an assistant master car builder, and an assistant, car department. In the track and structures department the chief is the engineer maintenance of way, and he has as his assistants an engineer maintenance of track, an engineer bridges, a signal engineer, a water supervisor, a supervisor of work equipment, and an assistant engineer track. In the stores department the chief is the general storekeeper, and he has a fuel agent as his assistant. The manager has an aide, and then there is provided a regular army colonel of engineers as assistant to the manager, for liaison purposes with the army command. The commander of the headquarters detachment is likewise the adjutant, who, of course, handles the messing and quarters for the headquarters troops.

I was permitted to recruit these headquarters officers from all of the railroads of the United States, and a very fine group of railroad officers, from the Bangor & Aroostook in the northeast to the Denver & Rio Grande Western in the west, make up the personnel of my assistants.

The engineer headquarters, railway grand division, of which there are five authorized, is divided into an administrative section, a transportation section, a water treatment section, an engineering section, an equipment section, and a stores section. Its personnel consists of 24 officers and 74 enlisted men, and once again we find the same railroad titles indicating the responsibilities which those men carry. The commanding officer, who has the military grade of colonel, is a general superintendent. He then has an assistant general superintendent of transportation, an engineer of track and structures, an assistant superintendent car service, a superintendent of equipment, a general storekeeper, a chemical engineer, an assistant engineer structures, a master mechanic, a master car builder, a mechanical engineer, a supervisor water service, a fuel agent, and again the captain who commands his administrative section is his adjutant—and the administrative section cares for the messing and quarters of the grand division headquarters troops.

The Operating Battalions

When we get to the operating battalions, of which there are 20 authorized, we find that the division superintendent is a lieutenant-colonel, and the battalion consists of 18 line officers and 3 attached medicos, or a total of 21 officers, 803 enlisted railroad men and 17 enlisted medical men, or a total of 820 enlisted men. The battalion is divided up into a battalion headquarters, headquarters and service company, Company A (maintenance of way), Company B (maintenance of equipment), and Company C (transportation). The commander of the battalion, as I have said, is a division superintendent, and his major is the assistant division superintendent. He has a captain as adjutant, but the real commander of the headquarters and service company is the division storekeeper, who is also a captain. The headquarters and service company is again divided into a company headquarters, an administrative section, a technical section, a supply and transport section, a mess section, a train movement section (which is in reality the dispatching force), and a signal maintenance section. That unit consists of 6 officers and 106 enlisted specialists.

Company A, the maintenance of way company, con-

sists of 4 officers and 190 enlisted men. The company commander is an engineer maintenance of way, and his other officers are a supervisor of bridges and buildings, a track supervisor, and an assistant engineer maintenance of way. The company is divided into two platoons, one a bridge and building maintenance platoon and the other a track maintenance platoon. Company B, or the maintenance of equipment company, consists of 4 officers and 182 enlisted men, the company commander being a master mechanic, one officer a mechanical engineer, another an enginehouse foreman, and the fourth a general car foreman. That company is likewise divided into two platoons, one a car repair platoon and the other a locomotive repair platoon. Company C, the transportation company, consists of 4 officers and 325 enlisted men. The company commander is a trainmaster; two lieutenants are traveling engineers, or road foreman of engines; and the fourth officer is a yardmaster. The company consists of two train operating platoons, with 25 train crews in each platoon.

The engineer battalion, railway shop, of which there are three authorized, is a strictly back-shop organization. The commander, a lieutenant colonel, is a general shop superintendent. This organization is composed of a battalion headquarters, headquarters and service company, Company A (erecting and machine shop), Company B (boiler and blacksmith shop), and Company C (car repair shop). There are 23 officers and 658 enlisted men in this unit, including 3 attached medical officers and 16 medical enlisted men.

Railroads Have Co-operated Generously

The approach made by the war department, through the chief of engineers, concerning these units of the military railway service was to ask the American railroads to accept sponsorship, or affiliation, of the units. The railroads have responded generously, and while there has been considerable difficulty in getting railroad men of experience, holding the positions indicated above, it has not been because of lack of patriotism or interest but because of the difficulty of securing experienced men who are not too old or too young for the appropriate army rank and who can pass the required physical examination. However, great progress has been made in overcoming what appeared for a while to be a most difficult problem.

The following roads have accepted the sponsorship of one or more units of the military railway service: Santa Fe (4 units, Atlantic Coast Line, Baltimore & Ohio, Boston & Maine, Central of Georgia, Central Railroad of New Jersey (in conjunction with the Reading), Chesapeake & Ohio, Chicago & North Western, Chicago, Burlington & Quincy, Chicago Great Western, Chicago, Milwaukee, St. Paul & Pacific, Chicago, St. Paul, Minneapolis & Omaha, Big Four (2 units), Denver & Rio Grande Western, Erie, Great Northern (2 units), Illinois Central (2 units), Lehigh Valley, Louisville & Nashville, Missouri-Kansas-Texas, Missouri Pacific, New York Central (4 units), New York, New Haven & Hartford (2 units), Norfolk & Western, Northern Pacific, Pennsylvania (6 units), Reading, St. Louis-San Francisco, Seaboard Air Line, Southern (2 units), Southern Pacific (5 units), Texas & Pacific, Union Pacific (4 units) and the Wabash.

The railroads that have accepted sponsorship and affiliation with the five railway grand division headquarters, the 20 operating battalions and the 3 shop battalions, have taken up with their officers the formation of these units and have recommended—and there have been

(Continued on page 444)



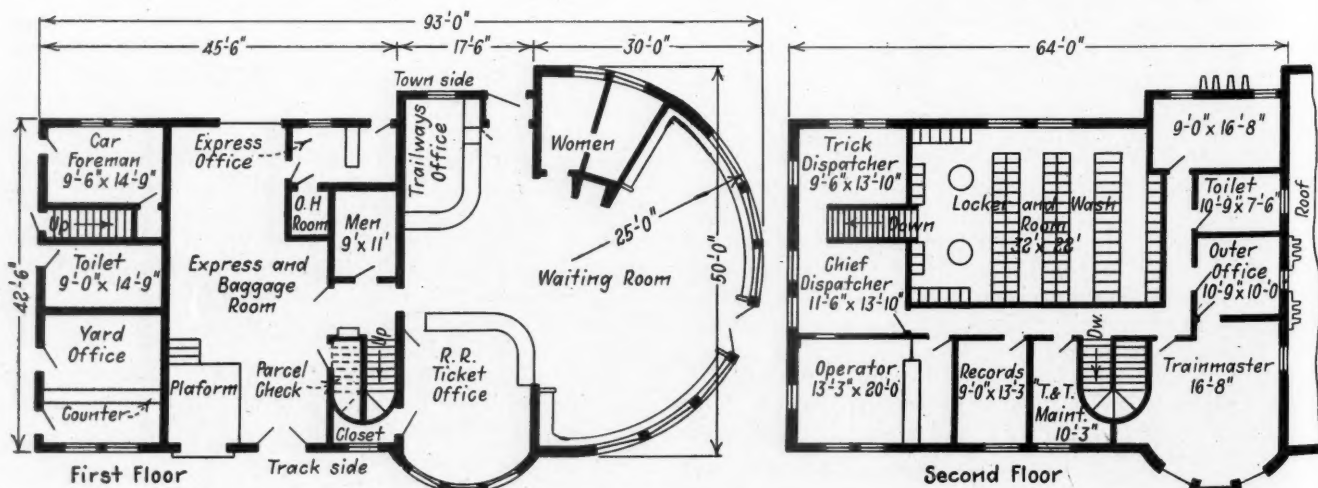
Modernistic Rail-Bus Station the "Talk of the Town"

New structure on the D. & R. G. W. at Salida, Colo., provides attractive facilities for patrons and consolidates terminal offices at saving over separate renovation projects

POSSIBLY the newest and most attractive building in Salida, Colo., well up in the Rocky mountains on the main line of the Denver & Rio Grande Western, approximately 50 miles west of the Royal Gorge, and certainly the most modern in architecture and furnishings, is the joint railway-bus passenger station built by the D. & R. G. W. in 1941. Interesting and unusual as is this fact in itself, of still greater interest

from strictly functional and economic standpoints is the fact that the new station, permitting the consolidation of other public and railway office facilities, replaces four old buildings, the pressing repair of which would have involved an expenditure probably as large as that made for the new structure, while at the same time eliminating all future maintenance of these four buildings.

In contrast with the old multi-gabled, one-story stone



station building formerly at Salida, built more than 50 years ago, the new station, in modernistic architecture, in white, with Royal blue trim and streamlined effects throughout, even to the design of a prominent Neon station sign, is most striking. Furthermore, through the use of modern building materials, lighting and design, the colorful modernistic atmosphere is carried throughout the station interior, adding not alone to its appeal to patrons, but simplifying future routine cleaning and maintenance.

Salida, a town of approximately 5,500 population, nestled in one of the attractive areas of the mountains, has for many years been a center of both summer and winter vacationing, bringing considerable business to the railroad. But beyond, and of greater importance in its relation to the new station, is the fact that it is a main line terminal point on the road, at which all passenger trains stop; a junction point with the road's narrow-gauge lines leading to the west and south; and an important hub in the extensive "Trailways" operations conducted by the railroad through its subsidiary, the Rio Grande Motorway, Inc. As such, Salida is one of the busiest railroad and travel points on the Rio Grande between Pueblo, Colo., on the east and its terminus at Salt Lake City, Utah, on the west.

Other and more immediate reasons for the construction of the new station at Salida included the specific need for improved facilities at this point; the opportunity to affect economies through the consolidation of certain existing facilities, avoiding heavy repair and maintenance; and the need for relocating the existing passenger station to permit fundamental improvements in the adjacent track layout serving the yard and terminal areas at that point.

Striking Prominence

The new station, while little more than 100 ft. from the nearest point of the old station, has many times its prominence, not alone because of its colorful exterior and design, but also because the relatively small shift in location centers it at the end of one of the important streets of the town, where it is visible for many blocks. Adding also to the importance assumed by the new station over the old, is the fact that, unlike the old, it is used jointly by the railroad and the radiating motor trailways of the company, the latter service handling as many or more passengers locally than the railroad.

Formerly, the road's trailways station was housed in



This View of the Station Can Be Seen for Many Blocks From the Center of Town

cramped, inadequate rented quarters in the business section of the town, about four blocks from the station, facilities that were given up when the new passenger station was put in service. Thus, today, in an unusually effective arrangement of rail and bus station co-ordination, patrons of both services are offered maximum convenience and comfort in station facilities for arrivals, departures and interchange.

The new station is not large, having an overall size of only 99 ft. by 50 ft. This assumes added significance in view of the fact that, in addition to its joint rail and bus passenger facilities, it also houses terminal operating offices, which were located formerly in a nearby company-owned hotel and annex building, and a yard office and car foreman's office, both of which were formerly located in inadequate separate buildings. All of these former buildings, of wood construction, and badly in need of repair, were dismantled.

Strictly Modernistic

The new station building, a two-story structure with rectilinear architectural lines, except for a large pro-



Plain, Unembellished Walls, Right Lines, a Variety of Contrasting Colors and Cove-Type Fluorescent Lighting Mark the Waiting Room. Railway Ticket Office is Shown at the Left, and the Motorway Ticket Counter at the Right

truding, one-story semi-circular bay at one end housing the waiting room, is of brick, fireproof construction, painted white and trimmed with blue cap course, sash and doors. Adding to the modernistic affect achieved in its exterior finish and decoration, and deliberately so, are the use of sectional steel sash, multiple horizontal bands in the brickwork surrounding the top of the two-story section, a group of three vertical streamers rising to the roof level directly above the entrance facing the business section of the town, and a bold masonry pylon in white, of World's Fair influence, which extends above the second-story roof and dominates the east face of the building. In keeping with and adding to this general architectural theme, a Neon sign is mounted on the roof of the one-story section, facing the town, with the words "Rio Grande" in streamlined letters, penetrating a large red heart, symbolizing the road's slogan, "Through the Rockies—Not Around Them," and harmonizing with the widely used slogan of Salida in its advertising—"Follow the Hearts to Salida."

It is at this type station, surrounded by broad drive-ways and parking areas, that all Rio Grande train and bus business at Salida is now handled, the buses nosing directly up to the train platform and within a few feet of the main entrance to the waiting room. Here also, all express and baggage are handled, and in an arrangement that insures minimum interference with passengers.

Colorful Interior

The most significant feature of the interior of the station is the extent to which the modernistic theme of the exterior has been incorporated, as expressed principally in plain, unembellished walls, right lines, a variety of contrasting colors, and fluorescent lighting. In the waiting room, located in the semi-circular bay at the east end under a fully insulated roof, the walls and ceilings are of plaster, cream-tinted and white, respectively, and the floor, of concrete, is covered with red mottled asphalt tile in a square pattern, with a black border and surrounding wall base.

Settees in the waiting room, with red leather upholstered seats and backs, line the curved wall of the room beneath a succession of six large steel sash window openings, the windows forming a continuous panel and vista through an arc of more than 120 deg. Adding further to the modernistic influence of this arrangement, all of these windows, as well as four others in the waiting room, are fitted with Venetian blinds.

The two ticket offices in the waiting room, one for the conduct of railroad business, and the other for the handling of motorway business, are located in opposite inside corners of the room, and are unique in that they are merely open working areas enclosed by open-top counters. The counters, of modernistic design, even to sloping wood fronts, from broad tops to smaller bases, have unobstructed working surfaces, covered with sheet Formica in a brilliant yellow.

In keeping with the treatment of these main public facilities, the toilet rooms for both men and women, the latter with a small private rest room, are equally plain and colorful, and are fitted with the latest types of plumbing and sanitary fixtures. Both of these rooms are equipped with wood-frame entrance doors, which are fitted with three large panels of translucent structural glass; have red asphalt tile floor coverings with black border and base; white porcelain and chromium-plated fixtures; and painted sanitary metal toilet partitions. The walls throughout the rooms are of plaster, those in the men's room being painted a cream color, while those in the women's quarters are tinted a light green.

Elsewhere on the main floor, as shown in the accompanying plan, the station provides an express and baggage room, with vertical bi-folding trucking doors on the street and track sides; a yard office, a car foreman's office, and a toilet for employees—all of these facilities being at the rear of the building and out of contact with the public areas within or about the station.

The second floor of the station, given over entirely to offices and employees facilities, provides a trainmaster's private and outer office, and separate offices for the Chief dispatcher, a trick dispatcher, an operator and a telephone and telegraph maintainer, as well as a record room and toilet, all reached by means of a stairway ascending from the waiting room. These individually enclosed areas are grouped about a large locker and wash room for train-service employees, for which a separate outside entrance and stairway is provided. Throughout the second floor areas, plaster walls and ceilings, red and black asphalt tile floor coverings, Venetian blinds and fluorescent lighting reflect the modern atmosphere of the main public facilities. One special feature here is the use of acoustic, sound-deadening plaster throughout the dispatchers' and operator's offices to minimize disturbing noises.

Heating of the station is by steam, employing concealed radiators throughout the public areas and exposed floor-type radiators elsewhere. Steam for the system is furnished by the road's terminal boiler plant, so that no separate heating plant is required in the building.

Cost \$40,000

Summing up the new station situation at Salida, it is evident that the Denver & Rio Grande Western, for an expenditure of approximately \$40,000, the cost of the new station, has acquired a most striking and inviting building; has provided ideal facilities for its train and railways patrons; has afforded highly suitable facilities for its local officers and employees; and has been enabled to make highly desirable track changes at this point—without, at no greater cost than would have been required to modernize its former separate facilities—even if that had been practicable.

The new station was planned and constructed by the W. E. Ryberg Company, builders, of Salt Lake City, Utah, under the direction of A. E. Perlman, chief engineer of the Denver & Rio Grande Western, and under the immediate supervision of C. M. Lightburn, assistant chief engineer.

Organization and Functions of the Military Railway Service

(Continued from page 441)

commissioned—railroad officers for appropriate assignments in the unit, or units, sponsored by that carrier. For the other 5 grand division headquarters, the other 22 operating battalions and the other 3 shop battalions, when and if required, the carriers will be asked to assume the responsibility for furnishing railroad officer personnel for commissioning.

A great many of these railroad officers saw service in the last World War. Likewise, a number of them have been serving with reserve commissions since that time, and, all in all, it is believed that with the organization and line of authority being so similar as between the army and the railroads, these railroad officers will slip into their new assignments in the army and provide a military railway service that can and will accomplish satisfactorily the mission of the service, that is, to operate steam railroads in any theatre of operations.

Status of the Steam Locomotive in Great Britain*

Methods of testing — Availability of British locomotives —
Appraisal of the prospects for the future

Part II†

IN England a large volume of testing has been undertaken on the road under service conditions at variable speeds. Continuous measurement of the work done at the drawbar by means of a dynamometer is the most widespread form of testing at present. The results are not entirely independent of variations in running resistance, however, and in comparing results so obtained due regard must be paid to composition of train, weather conditions, and nature of route traversed.

Progress in England Recorded in Road-Test Data

This method of testing, although not of scientific exactitude, has been of great value in providing signposts along the road we have traveled so far, and Table III gives some particulars of coal and water consumption per drawbar horsepower-hour for various locomotives. The table illustrates the progress in increased loads and speeds and lowered fuel consumption from 1927 on. It also contains four interesting individual comparisons: (1) an indication of the effect of mileage on efficiency; (2) the Turbomotive as against the nearest comparable reciprocating engines; (3) the Coronation engine with light and heavy loads, showing a wide range of economical working; (4) low-degree vs. high-degree superheat.

The figures cited are reasonably comparative as between the examples shown in the table, but they must on no account be compared with similar figures obtained from constant-speed tests, whether on the road or on test plants.

Many of the large and obvious savings in fuel consumption have been made by the study of data furnished by the methods of testing described above; but from now on each forward step will not only be more difficult to obtain mechanically, but its cost is likely to be high enough to make a very close estimate of the saving essential. For this reason, more exact experiments are necessary, and two methods of approach can be followed. One takes the form of a stationary testing plant, and the other involves the use of mobile apparatus.

There are undoubtedly difficulties in the way of finding what goes on in a locomotive cylinder on the road. Indicator cards can be taken while running in service, but as the indicators have to be connected to the cylinders by long pipes to bring them into a position where they can be worked, and as the indicator drive has often to consist of long and slender rods for the same reason, distortions occur at high speed, and the indicated horsepower recorded ceases to correspond with the actual.

Electrical indicators reading at a distance suitable for this purpose have not yet been perfected.

Again, there is difficulty in measuring the cylinder feed at the moment when the indicator card is taken, and under conditions of variable-speed testing it has been impossible to record an accurate water consumption over the brief periods in which it remains constant. These factors, together, form the greatest justification for testing at constant speed on a stationary plant where the data referred to can be obtained with complete accuracy.

A Stationary Test Plant Projected

Abroad, stationary testing plants have been at work since 1895, and, in particular, the Pennsylvania test plant at Altoona has, through its published bulletins, had a considerable influence on British design. The stationary plant erected by the Great Western Railway at Swindon in 1905 has provided useful data for the design of engines on that railway, but is of limited capacity. Sir Nigel Gresley, in his paper before the Institution in 1931,** reviewed the progress of such plants up to that time and also made a strong plea for a similar plant in this country to take the largest engines. Realizing, as he did, that no test results obtained under different conditions abroad with locomotives having widely different characteristics from our own, could be any real substitute for our tackling this problem ourselves, he persisted and eventually triumphed. The plant, as a joint enterprise between the London & North Eastern and the London, Midland & Scottish, was authorized and its construction was begun before the war. It will not be completed during hostilities.

The second method of approach to which I have referred carries the matter a stage beyond the consideration of thermal efficiency alone. It is necessary to couple that efficiency with actual operating conditions, and this is an aspect of the matter which can only be truly evaluated on the road. I refer particularly to the possibility of modifying train loads and schedules so as to insure that the engines are always working as nearly as possible at their condition of maximum efficiency. This is a fascinating subject on which it is possible to hold more than one view. It may be argued, for example, that when the curve relating efficiency to power output can be made flat enough, then scientific train loading will offer no advantages within very wide limits, since the locomotive's best efficiency will be available over a wide range of speed and load. Indeed, in this possibility is contained the steam locomotive's main potential advantage for railway traction, as against Diesel and

* From the presidential address of W. A. Stanier, M. I. Mech. E., entitled "The Position of the Locomotive in Mechanical Engineering," delivered before The (British) Institution of Mechanical Engineers on October 24, 1941. Mr. Stanier is chief mechanical engineer of the London, Midland & Scottish.

† Part I appeared in the February 21 issue of the *Railway Age*.

** "Locomotive Experimental Stations," by H. N. Gresley, Proceedings The Institution of Mechanical Engineers, 1931, p. 23.

electric prime movers which, for maximum efficiency, are required to work within much closer preordained limits.

In plain fact, however, while the curve for a modern steam locomotive is flatter than for alternative forms of power, there is none-the-less an optimum rate of working and to explore the application of this factor to traffic conditions is also a matter for experiment. Once again a great amount of useful data have been built up from variable-speed dynamometer car tests. Such tests, for example, have formed the basis of the working schedules for the Coronation Scot train and the Midland Division accelerations of pre-war days. To investigate this aspect more closely, however, it is proposed, by means of constant-speed testing on the line, to build up characteristic curves of the most economical performance under every condition of working for each class of engine, much as is done as a matter of course in the case of electric traction.

Constant-Speed Road Testing

The use of the brake locomotive to maintain constant speed over the test run was initiated by Czechtott in Poland in 1923. It has been widely developed in France and Germany and was introduced into this country by the late Sir Nigel Gresley on the London & North Eastern.

Instead of using an old steam locomotive for the purpose, it is proposed on the London, Midland & Scottish to use electrical braking vehicles known as mobile testing units. These units are akin to electric motor coaches, except that the motors act as generators; the current generated as they are hauled by the engine under test is dissipated through large air-cooled resistances. Any desired constant speed is maintained irrespective of gradient, by an automatic control of the generator output. The advantage of this method over the brake locomotive as used on the continent is that it gives a very much closer speed control which can be set from a panel in the dynamometer car, and, in addition, the electrical units can operate in the highest speed range, where a brake locomotive might be expected to encounter mechanical troubles.

The testing unit consists of three vehicles which can be used singly or in combination, according to speed and load requirements.

I have dealt at some length with thermal efficiency, because its importance is often misunderstood. It is true that fuel cost is only one of many operating costs and that even a 20 per cent saving in coal on an individual engine or a small class of engines does not represent very much in hard cash. For this reason, an almost defeatist view is sometimes taken that it is hardly worth trying to improve steam locomotive efficiency. It may be conceded that the production of one or two special locomotives may not have much immediate influence on a railway company's earnings; but as against this, if all the locomotives on the L. M. & S. could be made to work at the efficiency of the best, provided it was feasible to make the necessary changes in design and in operating conditions, the saving would be of considerable magnitude and it would be a goal worth striving for.

Locomotive Operating Efficiency

The locomotive is most efficient from an operating point of view when it combines maximum availability with minimum maintenance costs. In the first of these terms four conditions are included: (1) that the engine should be available for use, free from necessity for servicing and without breakdown, for the greatest number

of consecutive hours; (2) that the time required for the routine inspection and servicing and the time spent in running repairs should be a minimum; (3) that the engine should run the longest possible mileage between shop repairs; and (4) that the days spent under shop repair should be a minimum. Maintenance costs are dependent on each of the foregoing conditions. They are also affected by design, metallurgy, machine tools, and, above all, by organization.

Let us consider the present position under some of the above headings in which mechanical engineering has played its part. A modern locomotive is capable of the availability shown in Table IV, provided traffic conditions permit.

Table IV—Potential Availability of Modern English Locomotives

(1) Hours of continuous running without taking on fuel	8-10
(2) Days of continuous working without shed examination or attention	8
(3) Hours required in shed for boiler washout, standard examinations, minor repairs	18-24
(4) Mileage between piston and valve examinations at shed	40,000-45,000
(5) Hours required for examinations in item (4)	24-48
(6) Mileage before wheels and axle box require attention; light repair	Avg., 70,000; individual cases, 100,000
(7) Mileage before boiler requires major repair; heavy repair	Avg., 150,000; individual cases, 250,000
(8) Days in shops for heavy repair	15

As an example of the first two items, Pacific locomotives were, before the war, rostered to take the 10 a. m. train from Euston through to Glasgow, arriving at 5:40 p. m., and then to return with the 10:45 p. m. train the same day from Glasgow, through to Euston again, continuous runs of $7\frac{3}{4}$ and $8\frac{1}{2}$ hours, respectively, with an interval of five hours for train disposal, running to shed for coaling, and ash disposal. The mileage of the round trip was 804. Similarly, large numbers of engines were rostered to leave their home sheds for six to eight days at a time, working passenger and freight trains indiscriminately and continuously, and changing crews at intermediate points as required.

RUNNING REPAIRS

Boiler washouts and firebox examinations calling for 18 hours out of service during every 12-16 running days, in the case of modern high-pressure boilers, is admittedly the weak link in the steam locomotive's availability. This particular point requires much thought; and although water treatment and improved design, material, and repair methods are each contributing to its betterment, more must yet be achieved.

The piston and valve examination is the major routine reconditioning which has to be undertaken at running sheds. Old saturated-steam engines with slide valves require this service every 10,000-12,000 miles, while piston-valves formerly required attention each 20,000-24,000 miles. Attention to the design and manufacture of these components, coupled with improved lubrication and improvement of valve events to obviate the sucking of hot gases down the blast pipe have doubled this mileage in recent years.

Improvements in constructional materials and in workshop methods and organization have likewise contributed to the high mileages now being obtained between shop repairs. In so far as the condition of the boiler controls heavy repairs, the quality of water has a decisive influence and justifies the large schemes for water

softening undertaken by certain companies in recent years.

SHOP REPAIRS

The number of days spent in shops has been more than halved in the last ten years, mainly as a result of two major steps in shop organization. First, boiler design has been standardized and a sufficient stock of spare boilers provided so that an engine under repair no longer has to wait for its own boiler to be put back. Second, repairs are organized in successive stages, bringing the engine to specialist men and specialist machines at each stage of the repair. As a result, only $4\frac{1}{2}$ per cent of the 7,500 engines of the L. M. & S. are unavailable at any one time by reason of shop repairs.

Here, again, in operating (as in thermal) efficiency, the older designs in certain respects fall below the standard of attainment of modern designs. In other respects, however, they show to advantage. They are cheaper in first cost and are also often cheaper in repair costs per locomotive. The modern locomotive has to pay for its greatly improved performance by more expensive design and construction, but per unit of work done it would be found to be cheapest even, although per locomotive unit it may be more expensive. It is necessary to keep a sense of proportion in this matter, and if too narrow a view is taken, it is possible to cling over-long to old designs of low thermal efficiency for the sake of low costs which are more apparent than real. On the other hand, many promising designs intended to give improved thermal efficiency have been doomed because they lagged far behind the current standard of reliability. It is essential for the two kinds of efficiency to march together and, indeed, operating efficiency becomes even more important in engines of high thermal efficiency in order to counteract the capital charges on the increased capital cost.

After a long period of slow development, the steam locomotive has shown increasing vitality in recent years in the general advance of electric and Diesel traction. The problem will eventually be a choice between further improvement in steam, or its gradual supersession by other forms of motive power; and in this connection exceptional judgment will be called for in directing the motive-power policy of our railways in the future.

Future Position

The first and obvious move [after the war] is to review the existing locomotive stock with a view to deciding how far its level of efficiency can be raised. The reason why more has not already been done in this direction is that hitherto it has been difficult to justify, on any reliable basis, the cost involved. A second reason is that, in certain cases, operating conditions impose a lower standard of efficiency than that obtainable on test.

"TUNING UP" LOCOMOTIVES NOW IN SERVICE

Mechanically, almost all the older types of engines are capable of being "tuned up" to some extent. Economically, however, the alterations may not be so easy to justify, and in this connection I shall cite a simple example. Careful testing may indicate that an alteration costing £200 to each of 100 engines will save £50 per annum in coal for each engine. Accordingly, the investment is authorized, the £20,000 is spent, and in due course the directors begin to inquire if the promised saving has been realized.

Coal statistics on British railways are worked out on

the basis of pounds per mile run, and if, as is often the case, there has been in the intervening period a considerable variation in traffic conditions, such as a revival in trade, calling for heavier train loadings, or a new timetable involving a general speed up, these factors may increase the coal consumption per mile more than the locomotive improvement will reduce it. The net result is that there is no apparent saving, as shown by the usual statistics, and when this happens the effectiveness of test results are sometimes called in question.

The testing, however, is perfectly sound, and what is lacking is means of checking in service, whether the promised results are forthcoming or not. This raises the question as to whether the wise investment of capital in motive-power improvements will not call for some alteration in the basis on which annual statistics are compiled. Unlike electric traction, the power consumed with steam operation is not readily ascertainable from day to day, and some basis of ton-miles with a factor for speed of operation seems to be needed as a divisor into the total quantity of fuel consumed.

A second point concerns the conditions under which the engine is likely to work. There are thousands of engines in the country employed on shunting and short-distance freight work where conditions of maximum tractive force at very low speed are continuous. The reciprocating steam engine is very suitable for this work from a practical point of view because it provides this requirement without the need of transmission gear of any kind. But unless the engine is to be of undue size, these conditions call for full-gear working, in which the steam is not used expansively; and if this is the normal condition, the question may be asked what use is it to apply improvements which will bring economy only when the engine is working expansively?

The rebuilding of existing engines, at one time popular, is no longer so prevalent. It is possible for the addition of some improvements to act like new wine in old bottles, and cases may be cited in which new and improved cylinders and valve events may cause continual trouble in bearings which were of inadequate size even for the original state of the engine. Thus, caution has to be observed in the realm of alterations to existing engines; but when all is said, on balance there is probably a great deal to be obtained from an intensive study of this matter.

What Form of New Power?

Whatever is done regarding the existing stock, sooner or later a choice has to be made of the form of new motive power to be built in the future. In advancing from the known to the unknown, controversy seems inescapable and the claims of electrification, Diesel power, and turbo-condensing steam units will vigorously contest those of the normal steam locomotive, improved as far as it is possible to go. The problem is an engineering one, it is true, but to an equal, if not greater, extent it is a financial and an operating problem. Departure from the conventional form in nearly all cases gives rise to increased first cost and, therefore, to increased capital charges. If the savings due to lower fuel consumption are to remain as a net gain, some decrease in other operating costs and in repair costs is essential to offset the capital charges referred to.

The mileage run thus becomes a vital factor and this is limited partly by the engine's ability to attain a sufficient mileage per day and partly by operating considerations allowing of that mileage being run. Each locomotive available for work on the L. M. & S. is called upon to run an average of only 100 miles per day. This is

not because 100 miles is the maximum distance a steam locomotive is capable of running—an example has already been cited of an 800-mile run in the day—but it is due to the fact that varying density of traffic on different lines and fluctuations in demand between night and day, mid-week, and week end, make it difficult for rosters to be worked out which will enable the engines to run on the average more than this distance.

It is clear, therefore, that for many turns of duty the

operation. In this connection a modification of the steam locomotive which has attracted some attention on the Continent and in America is the use of a number of small high-speed totally enclosed reciprocating units, individually geared to the driving axles. In such designs the limits placed by the loading gage on compounding disappear, while the moving parts—running in oil protected from dirt and grit—may be expected to reduce the incidence of repairs. It would appear, however, that

Table III—Dynamometer Car Test Results with Various L. M. & S. Locomotives

Route, miles.....	Euston-Carlisle and return, 300 each way			Euston-Glasgow, 402		Euston-Glasgow and return 402 each way	Crewe- Glasgow and return 244 each way	St. Pancras-Leeds and return, 196 each way		
Engine No.....	A 5917	B 6158	C 6158	D 6210	E 6202	F 6225	G 6220	H 6234	J 5067	K 5079
Class.....	4-cyl. 4-6-0 Claughton; principal express type 1913-27	3-cyl. 4-6-0 Royal Scot; principal express type 1927-33		4-cyl. 4-6-2 Princess Royal introduced 1933	4-6-2 Turbo- motive; built 1935	4-cyl. 4-6-2 Coronation			2-cylinder 4-6-0 mixed traffic	
		Low mileage	High mileage			Light load	Normal Coronation Scot load and timing	Maximum load	14-element super-heater; approximate steam temp., 500 deg. F.	21-element super-heater; approximate steam temp., 580 deg. F.
Miles since last piston and valve examination.....	12,506	6,480	22,770	1,718	.....	3,502	220	20,733	20,600	4,622
Miles since last heavy repair	12,506	6,480	92,270	98,977	102,915	3,502	29,788	50,107	20,600	4,622
Avg. weight of train, (long) tons.....	347	440	440	522	485	232	331	604	292	292
Avg. running speed, m.p.h.	51.2	52.1	52.1	52	55	59.2	60.4	55.2	51.9	50.9
Coal consumption, lb. per:										
mile.....	46.6	37.1	39.3	45	41.6	28.2	39.2	68.7	49.5	43.7
(long) ton—mile (in- cluding engine).....	0.101	0.066	0.069	0.068	0.067	0.073	0.080	0.091	0.098	0.085
drawbar hp.-hr.....	5.03	3.25	3.50	2.98	2.78	3.32	3.03	3.12	3.97	3.23
sq. ft. grate per hr.....	79.2	62.4	65.1	62.2	50.7	33.4	47.3	75.7	74.1	63.6
Water consumption, (imp.) gal. per mile.....	32.1	30.3	33.1	37.3	37.1	26.7	32.3	52.1	38.2	32.8
lb. per drawbar hp.-hr....	34.5	26.5	29.5	24.7	24.8	31.6	25	24.1	30.6	24.3
Evaporation, lb. water per lb. coal.....	6.9	8.15	8.41	8.30	8.93	9.51	8.24	7.74	7.72	7.49

time required by steam locomotives for examinations, washouts, etc., is not a limitation to the building up of mileage, since the mileage could not be provided anyway for traffic reasons—at any rate, under present conditions. In such cases, the normal steam locomotive, cheap in first cost, has not yet reached the limit of its exploitation. In the other cases, also numerous, where schedules call for, or can be made to call for, more intensive working, the more expensive Diesel or condensing steam units offer themselves for serious consideration and are attractive in proportion as they are able to offer more continuous availability than the best normal steam engines. As complete electrification calls for still higher capital charges, a total recasting of schedules and rosters to promote intensive usage is necessary, and is invariably undertaken.

The best normal reciprocating steam engines already referred to have hitherto been able to offer a steadily increasing availability and mileage between the intervals during which it is stopped for repairs in the shops, and we may hope for further advances as a result of better axle boxes, harder tires, and improved boiler materials and design. The alternative forms of motive power can in varying degree exploit the possibilities of totally enclosed working parts running in oil, rotary instead of reciprocating motion, perfect balancing, rapid replacement of complete units, and (in special cases) one-man

this arrangement can effect nothing which the steam turbine cannot do as well or better.

In the range where it can be bought and paid for by the possibility of lower operating costs per mile, increased thermal efficiency is the next step forward, to consolidate the first steps already taken by pioneers of the various means to that end. Theoretically, the advances already made in other fields make a similar advance on the part of the locomotive overdue, but practically there are some very real obstacles.

THE PROBLEMS OF CONDENSING AND HIGHER STEAM PRESSURES

In steam propulsion condensing is the chief of these. Unlike the marine plant with the whole sea to draw on for cooling water and the land installation with its adjacent river and limitless space for cooling towers if required, the locomotive is very restricted in this respect. To carry the necessary cooling water and dissipate the heat therefrom, or alternatively to provide sufficient surface for direct air cooling, the locomotive can offer a space and weight varying from that of the existing tender to, at the very outside, the 9-ft. by 9-ft. by 60-ft. and 100 tons' weight represented by a vehicle with two six-wheel bogies. This is not necessarily impossible and in-
(Continued on page 453)

Land-Grant Deductions Running Into Big Money

Railroad revenue losses of \$25,000,000 to \$30,000,000 per year already indicated, House committee is told

WASHINGTON, D. C.

THAT land-grant deductions are becoming a major threat to railroad revenues as more and more of the country's productive effort is devoted to military purposes was shown by testimony presented last week at hearings before the House committee on interstate and foreign commerce on H. R. 6156, the bill introduced by Chairman Lea of that committee for the purpose of repealing remaining provisions of the land-grant-rate law. The testimony showed that the deductions already mean that railroad revenues from government traffic are running at the rate of \$25,000,000 to \$30,000,000 per year under what they would be if the full commercial rates applied.

The land-grant-rate law was partially repealed by the Transportation Act of 1940, but the remaining provisions leave land-grant deductions applicable on "the transportation of military or naval property of the United States moving for military or naval and not for civil use," and on "the transportation of members of the military or naval forces of the United States (or the property of such members) when such members are traveling on official duty." As noted in the *Railway Age* of November 1, 1941, page 709, the difficulties which have arisen as to the applicability of the foregoing to traffic moving in connection with the defense program, has crystallized among railroads and shippers a sentiment favoring complete repeal.

Repeal Sentiment Almost Unanimous

At last week's hearing the Lea repealer got not only shipper and railroad support; but it was favored also by the Interstate Commerce Commission, the Office of Defense Transportation, the Office of Price Administration, the American Trucking Associations, Inc., the Chamber of Commerce of the United States, and representatives of railroad labor. The principal opposition came from the War Department, which, as Vice President R. V. Fletcher of the Association of American Railroads put it, was in the natural position of not wanting its costs increased. Other opposition witnesses were a land-grant-rate clerk in the Army's transportation division and an employee of the General Accounting Office, who appeared as individuals, not representing the government departments where they worked. Also, Representative Gehrmann, Progressive of Wisconsin, planned to file with the committee a statement in opposition to repeal; but Representative Cannon, Democrat of Missouri, made a brief statement in favor of the bill.

Appearing as the first witness, Director Joseph B. Eastman of ODT recalled how he has favored the elimination of land-grant rates for many years. In his opinion the real *quid pro quo* for the grants was the opening of the country; and "they accomplished that, and the government and everybody else benefited." That is the principal reason why to Mr. Eastman's mind it is fair that the deductions should be eliminated. Another reason, however, is the fact that railroads which got no

grants must equalize their rates with land-grant rates if they want any of the government business on which the deductions apply. Moreover, Mr. Eastman suggested that land-grant deductions are really a burden upon the public because of its responsibility to provide the railroads with adequate earnings.

Eastman Cites Difficulties

After thus stating his general position, the ODT director came to the present-day situation. His staff, he said, has estimated that the deductions are now running at the rate of about \$25,000,000 a year. But aside from this effect on railroad revenues, Mr. Eastman went on, the land-grant rates have "an adverse effect on service." In the latter connection he mentioned delays due to billing complications, and cases wherein the government is deprived of expeditious service because trucks or forwarders which might provide such service do not meet land-grant rates. Finally, ODT anticipates difficulties in negotiating rate adjustments with the railroads if the carriers are in a position of uncertainty as to the applicability of land-grant rates to the traffic involved.

Concluding, Mr. Eastman said he had been told that some compromise has been suggested, i. e., legislation to give ODT power to suspend the operation of land-grant rates and to negotiate special rates for the movement of military and naval supplies. Such a compromise, he conceded, would accomplish the purposes of ODT.

Later G. Lloyd Wilson, director of ODT's Division of Rates and director of the Division of Transportation, Office of Price Administration, appeared with further testimony on the difficulty the defense agencies have in negotiating rate adjustments when the railroads are left in the position of not knowing what the application of land-grant rates will be. Although OPA favors H. R. 6156, the suggested compromise mentioned by Mr. Eastman "would not be unacceptable" to the price-control agency, Mr. Wilson said. It is understood that the compromise suggestion originated in the Office for Emergency Management.

Mahaffie Appears for I. C. C.

Appearing for the Interstate Commerce Commission, Commissioner Charles D. Mahaffie said that he had been instructed by the commission to make a presentation in support of the bill. He pointed out that repeal of land-grant rates had been recommended by President Roosevelt's first railroad committee—the so-called committee of three, consisting of Mr. Mahaffie and Commissioners Splawn and Eastman; and that the commission had endorsed that committee's recommendations. The commission, Mr. Mahaffie said, is not interested in a compromise for the duration of the war—it wants repeal on a permanent basis. Among other points made by Mr. Mahaffie was his discussion of commission difficulties in forecasting railroad revenues while land-grant rates re-

main. In the pending Ex Parte 148 rate-increase case, he said, no one was able to estimate the extent to which 1942 revenues would be affected by land-grant deductions. As to the shippers, Mr. Mahaffie said they would benefit by repeal primarily because they have to support the railroad system. "If there is a lot of government traffic moving at low rates, other traffic would have to make up the difference," he explained.

Vice-President Fletcher of the Association of American Railroads gave a highlight review of the history of land-grant rates, pointing out that when the partial-repeal provisions were embodied in the Transportation Act of 1940, the emphasis was upon the fact that shipments of military supplies were small. Since that time has come the defense program and the war, with the shifting of emphasis to government military and naval traffic. It is Judge Fletcher's opinion that the deductions will come to amount to more than the \$25,000,000 to \$30,000,000 a year which is estimated to be the present situation.

In an endeavor to find out what might be involved, he said, a questionnaire was recently sent to the railroads. Figures based on what the railroads think is the proper application of the present law show that in September, 1941, government freight traffic enjoyed deductions amounting to \$2,391,000 and its passenger traffic got deductions of \$563,000. For October, 1941, the figures were \$3,151,000 on freight traffic and \$873,000 on passenger traffic; November, 1941, freight traffic, \$3,061,000, passenger traffic, \$567,000; December, 1941, freight traffic, \$6,000,000, passenger traffic, \$2,000,000. Judge Fletcher noted that the December figures were perhaps not typical in that they were influenced by the tremendous movements of troops and supplies which followed the December 7 attack on Pearl Harbor.

Equalization Agreements Prevent Paralysis

Previously, the A. A. R. vice-president had asserted that if it were not for the equalization agreements entered by the non-land-grant roads, "the transportation of war material would be paralyzed." He explained that the Northern Pacific is the only Western road whose entire line is land-grant mileage; thus without the equalization agreements, all government transcontinental traffic would have to be routed over that road. He also mentioned the difficulties which have arisen as to the applicability of the 1940 act, leaving the railroads "in a most distressing situation of not knowing what is to be the result of the application of the deductions."

Judge Fletcher was followed by J. M. Souby, A. A. R. general solicitor, who said he has observed the administration of the 1940 act, and has reached the conclusion that difficulties as to the applicability make the land-grant provisions "practically unworkable without sacrifice by the railroads of many benefits which the law purported to confer on them." Among the specific instances cited by Mr. Souby was that wherein the Defense Plant Corporation, a subsidiary of the Reconstruction Finance Corporation, had contended that the land-grant deductions were applicable on materials going into plants financed by DPC but operated by private industries. Also, the Federal Housing Administration has claimed deductions on materials going into defense-housing projects.

With respect to these and other similar cases, Mr. Souby complained that the Comptroller General has been disposed to accept the conclusion of the interested administrative agency as to what is military and naval traffic. In the opinion of the A. A. R. general solicitor the phrase "not for civil use" in the present law makes

ineligible for land-grant deductions any material that is not exclusively for military or naval use. However, he doesn't think the difficulties can be eliminated by a "clarifying" amendment—"the only remedy is complete repeal."

Short Lines Have Much at Stake

J. M. Hood, president of the American Short Line Railroad Association, endorsed the A. A. R. presentation and those of other supporters of the bill. As to the short lines, he said that more than half of his Association's 307 members are parties to equalization agreements, and many of them are serving defense industries or facilities. Thus the deductions on military and naval traffic have become a matter of real concern to such roads.

Presentations on behalf of shippers were made by Charles R. Seal, chairman of the National Industrial Traffic League's legislative committee, and C. J. Good-year, general chairman of the Atlantic States Shippers' Advisory Board, representing the National Association of Shippers' Advisory Boards. Both argued that the present situation discriminates between shippers located on land-grant railroads and those on other railroads in bidding on government business. Colonel A. B. Barber, manager of the Transportation and Communication Department, Chamber of Commerce of the United States, made a brief presentation in which he called the land-grant rates "in effect a subsidy to the government at the expense of those who must ship or travel by railroad." He offered for the record the report in favor of repeal which was made recently by the Chamber's Transportation and Communication's Department Committee.

Asserting that the motor carriers "are placed at a serious competitive disadvantage by the operation of the land-grant rates," Carl F. Jackson, assistant general manager of American Trucking Associations, Inc., proceeded to tell the committee why the truckers favor repeal. The witness explained how the War and Navy departments have refused, all other things being equal, to ship by truck in land-grant territory until the motor carrier involved has signed an equalization agreement. Out of approximately 30,000 motor carriers in the country, only 58 had seen their way clear to the signing of such an agreement up to January 15, 1942. Thus the only places where motor carriers generally can compete with railroads for military and naval traffic are territories "where there is little land-grant trackage to be considered." And while the railroads "are doing a stupendous job excellently," Mr. Jackson suggested that they need "all of the help they can get."

Corbett Speaks for B. of L. E.

The only representative of railroad labor to appear at the hearing was John T. Corbett, assistant grand chief engineer and national legislative representative of the Brotherhood of Locomotive Engineers. He read a brief statement in favor of the bill, concluding with the following: "I know of no instance in which the government has secured such returns from canals as has been made through the construction and operation of the railroads; and we believe that now, when there are so many railroads finding it difficult and/or impossible to continue operation largely because of the subsidization of competing forms of transportation, the government should immediately discontinue the land-grant rate demands."

As noted above, the principal opposition came from the War Department, its witness being Lieutenant Colonel E. C. R. Lasher of the Quartermasters Corps.

Basically, Col. Lasher said, the War Department is opposed to repeal because of the increased costs which would be imposed upon it. He disputed testimony which attributed delays in government shipments to land-grant billing, asserting that there is only a relatively small amount of such delay. As to the equalization agreements, the witness suggested that the non-land-grant roads "wouldn't hasten to equalize" if there was no money in the government traffic. He conceded that there is some confusion among contractors who have to bid on government business in competition with firms in land-grant territory; but he added that this does not "to any extent adversely affect government procurement." The land-grant-rate problem in Col. Lasher's opinion is not a military problem. In response to questions from committee members, the witness said that the Quartermaster General's office has about 30 to 35 employees who might be said to be at least part-time land-grant-rate clerks.

The government employees who appeared as individuals were H. W. McGinnis, a land-grant-rate clerk in the Transportation Division of the Army; and T. C. Elliott, who was identified on the list of appearances as an "independent witness, a 'rate and traffic expert'; he is employed at but is not representing the General Accounting Office." Among other things, Mr. McGinnis said that the repealer was wrong—"it practically amounts to sabotage" in that "it would take money out of the treasury for years to come."

A statement setting forth the position of the National Association of Railroad and Utilities Commissioners in favor of repeal was filed with the committee by the Association's general counsel, John E. Benton.

Military Effort Strongly Reflected in S. P. Report

THE preliminary annual report of the Southern Pacific Company for 1941 was issued this week—revealing startling figures indicative of the degree to which the nation's military effort affects a strategically-located railroad, even though very little of the period reviewed included conditions of actual war. Virtually everything which happened to the Southern Pacific last year in the way of increased traffic can be traced directly or indirectly to the nation's military activity, as the preliminary report explains; and what happened was a great deal, as the accompanying tabulation makes clear.

Tons of freight traffic handled increased 31 per cent over 1940; ton-miles rose by almost 39 per cent. The average tonnage both per car and per train likewise increased. In passenger service, the increase in passenger-miles was 32 per cent, and average passengers per train rose 26 per cent. From a revenue standpoint, the increases were not so pronounced. Both freight and passenger revenues were up 29 per cent each. Operating expenses were increased by a little less than 21 per cent, and net railway operating income showed an improvement of almost 77 per cent.

The problem which such heavy traffic places upon this road is evident when consideration is given to the fact that it is predominantly single-tracked—one such line last year handling an average of 34, and a maximum of 44, trains daily. As one step toward securing efficient performance under such conditions, the company increased its supervisory forces substantially during 1941.

In the accompanying table, comparable figures from the company's annual reports for 1940 and 1929 have

been set down in juxtaposition to the 1941 statistics of revenues, expenses and traffic—the contrasts and similarities between 1941 and 1929 being particularly revealing. For example, the company carried almost exactly the same tonnage of freight in both years, but the average haul was much longer and the average rate much lower in 1941 than in 1929. Loaded cars and tons per train showed a gratifying increase, but the increase in freight revenues was far less spectacular than that in transportation service rendered (i. e., ton-miles).

Passenger service performed (i. e., passenger-miles) was appreciably greater in 1941 than in 1929, but so great was the decline in charges for this service that 1941 revenues were 18½ million dollars less than in 1929. Maintenance expenses in 1941 were substantially less than in 1929—a condition undoubtedly occasioned en-

Southern Pacific Revenues, Expenses and Traffic Characteristics—1941, 1940 and 1929 Compared

	1941	1940	1929
Freight Revenues	\$244,440,998	\$189,213,149	\$231,566,638
Passenger Revenues	31,596,317	24,480,122	50,185,916
Total Operating Revenues	297,786,326	231,932,280	310,969,138
M. of W. Expenses	30,163,659	24,508,748	39,271,282
M. of E. Expenses	48,006,780	38,936,085	54,281,873
Transp. Expenses	105,141,576	87,125,990	102,879,126
Total Oper. Expenses	203,985,627	169,268,712	219,698,403
Net Rev. from Ry. Oper.	93,800,699	62,663,568	91,270,735
Ry. Tax Accruals	21,428,925	17,858,045	22,263,608
Equip. & Joint Fac. Rents	14,934,473	12,339,664	9,192,278
Net Ry. Oper. Income	57,437,301	32,465,859	59,741,860
Other Income	7,999,458	8,073,088	17,852,215
Total Income	65,436,759	40,538,947	77,613,675
Misc. Deductions	1,170,443	1,360,644	1,407,997
Income Available for Fixed Charges	64,266,316	39,178,303	76,205,678
Fixed Charges	29,507,739	29,862,692	28,770,748
Net Income	34,758,578	9,315,611	47,434,930
Average Miles of Road Operated	13,005	13,043	13,688
Freight Train-Miles	31,883,440	25,762,320	29,414,458
Revenue Freight, Tons	63,281,037	48,331,657	63,905,098
Revenue Ton-Miles (000)	24,314,856	17,528,216	16,485,032
Loaded Cars Per Train	33.9	32.5	32.3
Net Tons per Train, All Freight	820.7	740.1	629.1
Revenue per Ton-Mile (¢) ....	.998	1.032	1.348
Average Haul, Rev. Freight, Mi.	384.2	362.7	258.0
Passenger Train-Miles	19,448,160	18,554,953	26,048,641
Rev. Passengers Carried	10,257,461	9,226,054	12,876,437
Rev. Passenger-Miles (000) ..	2,042,182	1,543,950	1,766,501
Rev. Passengers per Train	105.3	83.5	65.4
Rev. per Passenger-Mile (¢) ..	1.545	1.561	2.697
Average Passenger Journey (Mi.)	199.1	167.4	137.2

tirely, or almost so at any rate, by improved efficiency in the performance of such work.

While the company had a gratifying increase in its net income after all charges from 1940 to 1941 (the rise being 273 per cent), the contrast between net income in 1941 and 1929 is in the opposite direction—the decline in 1941 under 1929 being largely ascribable to a heavy decrease in "other" income, and to a substantial increase in equipment and joint facility rentals.

Some especially significant paragraphs from the preliminary report, explaining the company's increased revenues and expenses; its preparations for coping with the great transportation responsibility which the nation's military needs have put upon it; and its use of improved financial means to strengthen its credit position follow:

"Freight revenues were the largest in the history of the company. However, the average revenue per net ton-mile declined to 0.988 cents, falling below one cent for the first time since 1917. Passenger revenues showed a substantial increase, mainly due to the movement of military and other government traffic, travel by soldiers and sailors on furloughs, and civilian travel for business purposes.

"The average number of employees was 67,423, an increase of 8,251, or 13.94 per cent, compared with 1940.

Pay rolls comprised \$127,092,608 of total operating expenses, an increase of \$23,771,507, or 23.01 per cent over 1940, including approximately \$5,177,600 representing the cost of the wage award applicable to the last four months of the year.

"Approximately 352 track-miles of new rail, principally 113-lb. and 132-lb. weight per yard, were laid in repairs and renewals; compared with approximately 305 track-miles of new rail laid in 1940. Expenditures for repairs and protective improvements in 1941, due to storm damage, amounted to approximately \$1,602,000, of which about \$1,368,000 was charged to operating expenses, compared with \$472,000 of such operating charges in 1940.

"In February and thereafter, forces at all principal locomotive and car shops worked six days a week, and these forces were increased progressively through the year, with the result that, despite increased service required of all rolling stock, the general condition of equipment was improved, compared with the condition at the end of 1940.

"As a result of a decrease in the average speed of freight trains, due to greater density of traffic, the gross

ton-miles of freight moved per train-hour decreased 1.77 per cent from the high record of the previous year. However, an increase of 38.72 per cent in the net ton-miles of revenue freight carried was accompanied by an increase of only 23.76 per cent in freight train-miles, due to the heavier average loading of freight trains during the year.

"To provide for more dependable service under conditions of increased density of rail traffic, and due to the necessity of giving preference to military traffic, it was necessary to lengthen freight schedules between California points and Portland, Oregon, and from transcontinental points westbound to the Pacific Coast; as well as to suspend operation of certain passenger trains, particularly since war was declared.

"The following new rolling stock was received, on orders placed in 1940 and 1941: 20 steam passenger locomotives, 51 lightweight, steel passenger-train cars, and 3,319 freight-train cars, covered by Equipment Trusts; 40 Diesel-electric switchers, and 279 freight-train cars, covered by conditional sale contracts; and 10 freight-train cars provided out of treasury funds.

"Scheduled for delivery during 1942 on orders placed during 1941 are 10 steam passenger locomotives, 40

Edicts or Economics?

Having been associated with transportation during the first world war and since, and having only recently reviewed America's transportation experience for that period, your observer remains convinced that the failure of the transportation machine at that time was due largely to bungling by people who claimed to, but did not, know the answers. They took the control of the railroads away from the men who had spent their lives learning how to run them. Vividly recalled, among other things, was consolidation by the Railroad Administration of the ticket offices at Chattanooga at an increased expense of \$150 per month.

Our hope now is that transportation will be brought together co-operatively under the ODT set-up, and not by edict as in the last war. Asked his opinion of the ODT plan for meeting the present emergency, a prominent transportation executive said: "If they devote their time to developing co-operation and improving service, and refrain from trying to reform everybody, a transportation shortage can be averted."

The Interstate Commerce Commission stated in substance in its annual report that the relatively small amount of railway equipment in service today was ascribable to the trucks having taken so much railroad traffic and revenue away there had been little demand for additional equipment or money to buy it with.

They might have added, also, with equal truth, that their paternalistic minimum truck rate orders and failure to devise rates reflecting the "inherent" advantages and economies of each form of transportation were largely responsible for the expansion of the trucking industry into uneconomic hauls, and the consequent deprivation of the railroads of such traffic. Not having this traffic to haul, the railroads did not provide themselves with the equipment which its haulage would require.

Now it is being suggested that balance be brought into this unbalanced situation by setting up "sailing days" for railroad merchandise traffic and requiring a certain minimum loading for freight cars. But light loading of merchandise cars is an effect, not a cause. You can't cure a disease by attacking a symptom. It is true that there was light loading of merchandise cars before the trucks came on the scene and that "sailing days" were used under the Railroad Administration to correct this condition—but that was because the railroads then *had* to handle short-haul "retail" transportation, since there was no alternative method available. The cause of pre-depression light loading of merchandise cars has disappeared.

The cause of today's light loading is entirely different—today the cause is the uneconomic duplication of railroad service by forwarders and trucks. The sound way to remove an effect is to move the cause. Undoubtedly there can be much better utilization of forwarder, railroad and trucks facilities in handling merchandise, but the correctives should be employed wherever wasteful transportation is found—not simply against the *symptoms* of uneconomic conditions as they appear in the operations of *one segment* of the transportation industry.

Incidentally, what device has anybody ever suggested for banishing wasteful practices equally from all forms of transportation, which could possibly be as effective as *rates reflecting the comparative economy of each*?

Issuing edicts requires no mental effort, as would be necessary to apply sound rate-making principles to competitive transportation. The edict route also avoids the old-fashioned procedure of democracy and free enterprise, so irksome to modern officialdom, where people act of their own free will, because it is to their economic advantage to do so—and not because of fear of the police.

heavy-duty freight locomotives, 23 Diesel-electric switchers, and 4,885 freight-train cars. The foregoing equipment is being delivered currently, and it is expected that the final units will be delivered by summer end.

"Approximately 490 track miles of the rail laid in renewals, during the year, replaced rail of lighter weight. Approximately 86 miles of new sidings, yard tracks, and extensions of such tracks were completed, and additional such work was in progress at the end of the year. Between Santa Margarita and San Luis Obispo, 16.3 miles, and between Delta and Black Butte, about 50 miles, in California, facilities were being installed to provide for control by train dispatchers of signals and switches governing movement of trains. Shop and roundhouse facilities at various terminals, and locomotive water supply facilities at a number of locations, were improved. A new passenger station was completed at Salinas, California, and the station at Bakersfield, California, was modernized.

"There was a net decrease, during 1941, of \$24,683,463.51 in funded debt held by the public and short term bank loans of Southern Pacific Transportation System."

New Book . . .

Essays in Transportation, edited by H. A. Innis. 165 pages. 9 in. by 6 in. Bound in cloth. Published by the University of Toronto Press, Toronto, Ont. Price \$2.50.

This is a collection of new essays—not hitherto published—issued in honor of Professor W. T. Jackman, who is scheduled to retire this year as Professor of Transportation at the University of Toronto after 25 years of service in that institution. The essays average about 20 pages in length apiece and have no relationship with each other.

"Some Comparisons in Canadian and American Railway Finance" by H. E. Dougall, professor of transportation and corporate finance at Northwestern University, discusses the questions of government and private financing in the two countries, pointing out that "in Canada the taxpayer shares with the investor the effects of shrunken railway earnings, while in the United States the private investor bears the brunt of railroad losses." The author is greatly concerned with the "dead capital" in the Canadian National which the government must continue to support and is in favor of a unified management of the two Canadian systems and a thorough "financial house-cleaning."

"Nationalism and Internationalism on the Canadian Waterways" by G. P. de T. Glazebrook, Department of History, University of Toronto, presents a brief history of the St. Lawrence waterway project and various considerations in the project to construct a deep ship waterway to the Great Lakes.

F. L. Barton, chief of the Economic section, Tennessee Valley Authority, in "Principal International and Interterritorial Class-rate Structures of North America" presents a discussion of alleged rate discrimination against the South and Southwest, on which subject the staff of the T. V. A. has issued a flood of reports, articles and speeches in the last few years. The new element in the essay is the inclusion of rates from eastern Canada to official territory (United States) to the rate comparisons. The author concludes that in every case, class rates from outlying territories of the United States to Official territory are higher than either the class rates within Official territory or those from eastern Canada to Official territory, and presents studies purporting to show that this is true in spite of a higher density in tons and ton-miles per mile of road in Southern, Southwestern and Western trunk line territories of the United States than in eastern Canada, and the fact that expense per traffic unit is higher in Canada than in the United States. The author, as is true of all the recent studies in favor of readjusting rates from the South, concentrates on class rates and ignores the large element which commodity rates play in the Southern rate structure.

Dr. G. Lloyd Wilson, head of the Division of Rates, Office of Defense Transportation, and professor of transportation at the University of Pennsylvania, in "Some Basic Problems in the

Public Regulation of Transportation" praises the need of scholarship of the type represented by Professor Jackman in solving the present problems of transportation regulations and presents a generalized review of the basic problems which still remain unsolved.

W. M. Drummond, of the Ontario Agricultural College, in "Transportation and Canadian Agriculture" points out the peculiar needs and problems of the Canadian farmer and emphasizes his need for the cheapest possible transportation. Among other things, he views the motor truck as both relieving the farmer from certain burdens and bringing him new marketing difficulties. Significantly enough, the author admittedly ignores the question as to what groups should receive the benefit or bear the burden of reductions in transportation cost.

N. D. Wilson, of the engineering firm of Wilson & Bunnell, in "Some Problems of Urban Transportation" presents one of the most complete, informative and fascinating analyses of present-day city and suburban common carrier transportation that this reviewer has come upon. The author has an intimate knowledge of the peculiar problems of virtually every city of the world, which knowledge he puts to good advantage in explaining the whys and wherefores of his subject.

W. G. Scott, of the London School of Economics, in "An Aspect of the British Railways Act, 1921" reviews financial relationships between the British government and the standard trunk-line railways since 1914, with special reference to the recent wartime agreements and revenue guarantees. The author concludes that the railroad stockholders have received very generous treatment since 1940 and that the railroads themselves, being relieved of virtually all competition (gasoline rationing, blackout conditions and requisitioning of motor vehicles), are in a position to exploit their customers to the full. The writer believes that if railway investment deserves special consideration, the government should have granted a direct subsidy to the railroads rather than to permit them to increase charges to their patrons. The final essay in the book on international payments is not strictly in the transportation field and hence may be eliminated from consideration in this review.

At the rear of the book there is carried a four-page biography of books and articles by Professor Jackman, including several which he wrote for the *Railway Age* during the 1920's.

Status of the Steam Locomotive in England

(Continued from page 448)

vites ingenious design, but if the power required for the cooling fans is a high percentage of the total power output, as has usually been the case in attempts up to the present, a good deal of the advantage of condensing is lost.

Higher steam pressures call for water-tube boilers, of which many types are applicable to the locomotive if oil fuel is used. The number of types, capable of high capacity, with small weight and space, which can use coal is much more restricted. The conveniences of using oil fuel are many, but both from economic and national points of view, the use of the abundant and cheap supplies of British coal is very desirable, and the development of a coal-fired high-pressure water-tube boiler weighing about 60 per cent of the weight of a locomotive type boiler of corresponding output is a problem yet to be solved.

It is clear that the locomotive engineer of the future will have to range far outside the limits of his railway surroundings, and a wide knowledge and understanding of what is going on in other fields will be essential. For this purpose the work of the Institution is invaluable and it is hoped that as the locomotive follows the marine engine and the power station into the field of scientific investigation, the Institution may be the medium through which the various forward steps will be recorded, criticized, and encouraged.

NEWS

How RRs Conserve Scarce Materials

Substitutes and makeshifts take place of copper, tin, rubber, steel castings

Various committees of the Association of American Railroads have been studying for some time the possibilities in curtailing the use of such critical and scarce materials as copper, rubber, and tin and the use of substitutes for these materials wherever practicable.

From the A. A. R. Mechanical division, Committee on Brakes and Brake Equipment, a report dated January 9, 1942, covers the results of studies made by that committee in co-operation with the manufacturers of air brake equipment to develop substitutes for brass or bronze and to reduce the amount of copper used in these materials. This study is not yet completed and the committee, in co-operation with the manufacturers is conducting studies of other details and will submit recommendations with respect thereto at the earliest possible date. It is estimated, however, that the substitutions already proposed will result in a saving in brass of approximately 34.7 per cent in the brake equipment studied; or, based on the total consumption during the last quarter of 1940, of a saving in copper of about 23.5 per cent for the two air brake companies.

A special joint committee from the Mechanical and the Purchases and Stores divisions reported on January 26, 1942, that the standard specifications for tin and sheet metal ware have been revised to eliminate the use of tin entirely. The matter of specifications for journal bearings and journal bearing lining to permit further reductions in the use of tin are under study and a research program has been initiated which is under the direction of the mechanical engineer of the Mechanical division and a committee representing the Committee on Car Construction, the Committee on Lubrication of Cars and Locomotives and the Committee on Specifications for Materials to develop substitutes for bronze in journal bearing backs and the possibility of further reduction in the use of tin in journal bearing linings.

The Committee on Car Construction, in a report dated January 29, 1942, on the subject of substitutes for steel castings, advised that, for such important items as couplers, coupler yokes, draft gears and side frames, there is no suitable substitute available for Grade B cast steel. For other parts the committee is recommending, how-

ever, that, in the event it becomes impossible to obtain bolsters in cast steel, consideration be given to substitutes, such as built-up welded structures and pressed steel built-up bolsters. Further, the committee is recommending the use of either built-up or welded plate structures, malleable castings or drop forgings for cast steel for other items where steel castings are now used.

A special Joint Committee on the Conservation of Rubber, presented a report, dated January 26, 1942, in three exhibits. Exhibit A listed items made of rubber or containing rubber, regarding which no change in existing standard is recommended for the present. Exhibit B was a list of items made of rubber or containing rubber, regarding which a substitute is recommended. Exhibit C was a list of items made of rubber or containing rubber, regarding which a partial substitution may be made but concerning which it is necessary to conduct further investigation before making definite recommendations. This report also contained special recommendations with respect to the conservation of hose.

It was urged that, in the interest of the war effort and to conserve critical materials for armament purposes, every railroad do everything possible to eliminate or reduce the use of critical materials such as those covered in those reports.

The various committees of the Association of American Railways are continuing their studies to see if further savings or substitutes can be effected. The manufacturers of specialty devices are co-operating wholeheartedly with the committees in an effort to reduce the strategic and critical materials in their products. The individual railroads are also strongly urged to do everything possible to salvage or reclaim materials of all kinds for further use and in this way reduce the requirements for new materials. This applies to all kinds of materials, in addition to the one covered in the attached reports. It is realized that every expedient must be resorted to in order that there may be sufficient materials of all kinds available for the production of war materials, even though, in so doing, the railroads may be required to use materials which may not have the same life expectancy, but which will not impair safety of operation.

Retirement Act Amendment

Representative Hendricks, Democrat of Florida, has introduced H. R. 6655 "to extend the eligibility for benefits under the Railroad Retirement Act of 1937, to individuals who are ineligible only by reason of the time of separation from service."

Too Much Money in Jobless Fund

Pension Board hints sick pay is one way to rid itself of overweight backroll

The balance in the railroad unemployment insurance account had mounted to nearly \$190,000,000 by the close of the fiscal year ended June 30, 1941, despite the more liberal benefit payments provided by the 1940 amendments to the Railroad Unemployment Insurance Act, it was shown by the annual report of the Railroad Retirement Board which was made public this week. The unemployment benefit payments for the fiscal 1941 totaled \$17,700,000 whereas they would have totaled \$11,850,000, or 20 per cent less, if the liberalizing amendments had not been enacted.

When those amendments were under consideration, the railroads were disposed to go along with some changes, but they asked also for a reduction in the unemployment insurance tax, which is paid entirely by the carriers and amounts to three per cent of payroll, excluding monthly amounts in excess of \$300 for any one employee. Their plea in that connection was rejected, having been opposed by the Retirement Board; and there is in the present report no suggestion that mounting fund yet warrants a reduction in the tax. Rather there is reference to the fact that the Board had been requested to consider "the possibility of providing cash benefits for railroad employees temporarily incapacitated by illness"; and an expression of the Board's belief that "benefits to qualified employees while they are sick, in the same amounts for the same periods as unemployed workers receive during unemployment, can be paid from unemployment insurance funds, without increase in contributions." As the report says later on, in discussing the financial operations of unemployment insurance, "One of the simpler of the Board's tasks in administering the act is the collection of contributions from employers."

The rise in the unemployment insurance fund to \$190,000,000, the report explains, was due mainly to the transfer of \$104,100,000 from state unemployment insurance funds; that amount represents contributions paid to state funds by railroad employers and their employees, less an approximation of benefits paid by the states to railroad employees, prior to the passage of the Railroad Unemployment Insurance Act. Meanwhile, however, fiscal 1941 collections of unemployment insurance taxes from the railroads were up some \$4,970,-

000 from the previous year and totaled more than \$61,000,000.

With respect to the retirement fund, the Board notes that "substantial changes" during the year under review in the amount of taxable payrolls and the amount of new employee annuities had "strengthened" the financial status of the retirement system. And while the number of new employee annuities beginning to accrue in fiscal 1941 is "still considerably above the figure used in the original estimates of the cost of the system," the Board is satisfied that it spoke wisely when, upon publication of the first actuarial valuation in 1940, it recommended that no increase in retirement taxes be made at that time. As noted in the *Railway Age* of September 7, 1940, page 340, the actuarial valuation as of December 31, 1938, found that the rates under the Carriers Taxing Act would have to be increased from six per cent of the payroll to approximately 11.11 per cent if they were to maintain a fund adequate to support the retirement system set up in the Railroad Retirement Act. Half of this six per cent tax is paid by the employees and half by the carriers; and the law provides for a rise to a maximum of $7\frac{1}{2}$ per cent in 1949.

"The experience since December 31, 1938, particularly during the last fiscal year, and the apparent outlook for the immediate future," the report says, "emphasize the importance of the Board's recommendation that any decision as to an increase in taxes should await the results of a revaluation of the railroad retirement system based on experience through 1941." Aggregate benefit payments under the Railroad Retirement Act in fiscal 1941 totaled \$121,799,776, an increase of 6.8 per cent over the \$114,025,141 certified for payment in the previous fiscal year. The report reviews the finances of the retirement and unemployment systems up to the close of the fiscal year, but later figures have been released each month and published in *Railway Age*. The January review appears elsewhere in this issue.

Discussing the improvement of the retirement system, the report reveals that the Board is considering such matters as the liberalization of the disability retirement provisions; the provision of "more adequate survivor benefits"; and the problem of dual coverage by the Railroad Retirement Act and the Social Security Act. Also, the Board is "considering the feasibility of some provision under which red caps could be credited for prior service which had been performed only for tips"; and it believes that it would be desirable to amend the act "to provide for the suspension of annuity payments if the annuitant returns to regular substantial work, either for a previous employer or for a new employer." It is the Board's understanding that an amendment along those lines would be favored by both the railroads and railroad labor organizations. It goes on to suggest, however, that such a change should be considered in connection with similar restrictions under the Social Security Act. Under the Railroad Retirement Act as now written, an annuitant does not lose his annuity by working for an employer not covered by the act who

WPB Has Eastman's Tentative Equipment Recommendations

Director Joseph B. Eastman, of the office of Defense Transportation, on February 26 said he would not indicate whether published reports were accurate or inaccurate in saying that ODT had recommended to the War Production Board that materials be allocated for the construction of 130,000 freight cars during the last eight months of 1942. The ODT director did say that the "tentative" estimates of his organization had been submitted to WPB, adding, however, that no "final" estimates had been made.

In addition to the mention of the 130,000 freight cars, the reports stated that materials for 3,000 troop-transport cars were also understood to have been recommended by ODT. Such troop cars would presumably be of the type capable of being converted into box cars which has been proposed.

was not the last employer for whom he worked before the annuity began to accrue.

Seeing a need for the simplification of the retirement system's records, the Board is considering the idea of requiring the reporting of wages and employment records once a year, rather than once a quarter, and including in the reports wages paid rather than wages payable. With respect to the crediting of military service toward annuities and unemployment insurance benefits, the Board recommends enactment by Congress of the pending bill which would provide such credits for service subsequent to 1936. Military service in a war period prior to January 1, 1937, is already creditable under the Retirement Act.

Club Meetings

The Traffic Club of Newark, N. J., will hold its next regular meeting at the Robert Treat hotel on March 2. The next traffic club forum will be held at the same headquarters on March 9 and is titled, "Coordination of Transportation For Defense."

Special Meeting of A. A. R. Member Roads

A special meeting of Association of American Railroads member roads was scheduled to be held at Chicago on February 27. The principal matter to be considered was the allocation of materials for new equipment and maintenance.

S. A. L. Trains Crash Head-On

Two railroad employees were killed and at least 42 employees and passengers injured when the northbound "Sun Queen" and southbound "Orange Blossom Special" collided head-on on a curve at Hypoluxo, Fla., about 11 mi. south of West Palm Beach, Fla., on the Seaboard Air Line, at 11:50 a. m., February 19. The two employees killed were the engineer of the "Sun Queen" and the fireman of the "Orange Blossom Special." The engineer of

the latter is reported to have been critically injured. Both trains were hauled by Diesel-electric locomotives which suffered substantial damage. Fire and the remoteness of the spot from highways and hospitals made the task of rescue a difficult one.

P. & O. Line Suspends Service

All services of the Peninsular & Occidental Steamship Company, an affiliate of the Atlantic Coast Line operating between Miami, Fla., and Havana, Cuba, was suspended, effective February 16 from Havana, and February 17 from Miami. The service suspension followed commandeering by the federal government of the steamship "Cuba".

OPA Appointment

William M. Carney, vice-chairman of the Intercoastal Steamship Freight Association with headquarters at New York, has been appointed principal consultant to the Office of Price Administration's Division of Transportation. Dr. G. Lloyd Wilson, director of the Division, is also director of the Division of Rates in the Office of Defense Transportation.

ODT Forms River Carriers Advisory Committee

Formation of a River Carriers Transportation Advisory Committee has been announced by Joseph B. Eastman, director of defense transportation. The committee will cooperate with Edward Clemens, director of ODT's Division of Inland Waterway Transport in dealing with problems of interest to the river carriers. Andrew P. Calhoun, vice-president of the American Barge Line Company, Pittsburgh, Pa., has been named chairman of the committee.

Ickes Urges Alaska Highway

The advancement of the proposed international highway to Alaska and other roads in that territory is one of the proposals made this week by Secretary of the Interior Harold L. Ickes in a seven-phase plan of activity to serve in the "mobilizing of strategic natural resources of the nation."

Another proposal included under the subject of "Oil for War" is to reshape the "complex transportation system of the oil industry by substituting tank cars, trucks, barges, and pipe lines for tankers diverted to war service."

ODT Appointments

Appointment of four additional executives to the staff of the Office of Defense Transportation was announced this week by Director Joseph B. Eastman. Edward A. Roberts has been named associate director, Division of Local Transport; Glenn E. Taylor has been appointed assistant director, Division of Inland Waterway Transport; Hallan Huffman has been appointed assistant general counsel; and John C. Howard has been named assistant to the director of the Division of Rates.

Mr. Roberts, a consulting engineer specializing in urban passenger transportation, has been in recent years a member of the firms of Fisk & Company and the Beeler Organization, both of New York. He was president of the Queens-Nassau

Transit Lines, Inc., New York, from 1923 until last month. Mr. Taylor has been associated with the government-owned Federal Barge Lines since 1920; at the time of his present appointment he was district superintendent at New Orleans, La. Mr. Huffman has been a regional attorney for the Bureau of Motor Carriers, Interstate Commerce Commission. Mr. Howard has been manager of the Rate and Tariff Division, General Traffic Department, United States Rubber Company, since 1939.

January Operating Revenues 25.8 Per Cent Above 1941

Preliminary reports from 87 Class I railroads, representing 82.5 per cent of total operating revenues, made public by the Association of American Railroads, show that those roads, in January, had estimated operating revenues amounting to \$391,933,512, compared with \$311,436,431 in the same month of 1941, or an increase of 25.8 per cent.

Freight revenues of the 87 Class I roads in January amounted to \$321,211,159 compared with \$254,784,413 in January, 1941, or an increase of 26.1 per cent. Passenger revenues totaled \$45,277,735, compared with \$33,255,604 in January, 1941, or an increase of 36.2 per cent.

Conversion of Locomotive Plants

The War Production Board is considering a question raised by locomotive builders as to how much capacity they should hold in readiness to meet the requirements of the Office of Defense Transportation while they proceed with their plant-conversion programs. This was revealed by J. S. Knowlson, director of WPB's Division of Industry Operations, in his discussion of conversion at a February 24 press conference.

Citing the locomotive builders' problem as a typical problem of conversion, Mr. Knowlson said that they have an A-3 priority and they have to give preference to Army and Navy orders. He conceded, however, that locomotives, too, are essential to the war effort; and thus WPB is working on the industry's aforementioned query.

January Truck Tonnage Increase Just About Parallels R.R.s'

The volume of freight transported by motor truck in January represented a decrease of 1.8 per cent under December, but an increase of 11.5 per cent as compared with January, 1941, according to American Trucking Associations. This compares with an increase in railroad carloadings of 11.7 per cent in the five January weeks over the same 1941 period.

Comparable reports were received by A. T. A. from 195 motor carriers in 41 states; the reporting carriers transported an aggregate of 1,136,947 tons in January, as against 1,157,761 tons in December, and 1,019,354 tons in January, 1941. The A. T. A. index figure, based on the 1938-1940 average monthly tonnage, was 152.56, as compared with December's 153.41.

A little more than 78 per cent of all tonnage transported in January was reported by carriers of general freight. The volume in this category decreased 1.6 per cent under December, but held 13.8 per cent over January of last year. Trans-

porters of petroleum products, accounting for 11 per cent of the total tonnage reported, showed an increase of 7.8 per cent over December, and an increase of 73.2 per cent over January, 1941. Movement of new automobiles and trucks, curtailed sharply by the war, constituted only two per cent of the total tonnage reported; tonnage in this class dropped 11.5 per cent under December, and 47.3 per cent under January of last year. Haulers of iron and steel products reported approximately four per cent of the total tonnage, and their January volume was 15.5 per cent under December and 37.5 per cent under January, 1941. Almost five per cent of the total tonnage reported was miscellaneous commodities, including tobacco, milk, textile products, bricks, building materials, cement and household goods. Tonnage in this class decreased 6.8 per cent under December, but held 5.6 per cent above January of last year.

Superhighway Bill

Senator Reynolds, Democrat of North Carolina, has introduced Senate Joint Resolution 135, calling for the establishment of a Federal Superhighway Commission which would prepare plans and specifications for a transcontinental highway system comprising "two east and west superhighways and two north and south superhighways, together with such connecting or spur highways and approaches thereto as may be necessary and appropriate . . ."

The resolution would authorize the appropriation of \$5,000,000,000 for the highways which would be constructed "on a right-of-way at least three hundred feet in width," and would "contain from four to twelve one-way paved lanes, depending upon traffic conditions."

I. C. C. Extends Policy of Not Printing All Reports

The Interstate Commerce Commission has extended to all cases arising out of applications the practice of not printing in the permanent series of Interstate Commerce Commission Reports those reports "in which there is no interpretation of law, or of a tariff, or of a commission or division ruling, or discussion of the legality of any practice or service of carriers." The reports thus ineligible for printing will, however, be summarized and reported in an appendix to the permanent series; and when released in mimeographed form they will be designated as reports which are not to be printed.

In May, 1940, the commission inaugurated the foregoing practice with respect to reports in motor carrier application matters.

Service Order Amended

The Interstate Commerce Commission has amended Service Order 70 which suspends rules and charges governing the diversion or reconsignment of fruits and vegetables in refrigerator cars, insofar as they authorize or permit diversions or reconsignments in excess of three while en route, plus one additional change in consignee or place of unloading at destination.

The changes make it clear that the order applies only to shipments originating on or

after February 20, 1942, except where a shipment has received a transit privilege which involved unloading the inbound car the order applies to outbound movements from transit points on or after February 20, 1942. Also, changes while en route in the name of the consignee or consignor which do not involve changes either in the route or destination are not to be counted as diversions or reconsignments.

A. A. R. Mechanical Division Annual Meeting Deferred

In view of present conditions, it has been decided that there will be no annual meeting of the A. A. R. Mechanical Division for the year 1942. The various committees of the division are active in handling matters requiring attention, particularly those matters relating to the war effort. As fast as recommendations are proposed by the various committees they will be placed before the General committee and required action taken. Where necessary, they will be referred to the members by letter ballot.

As recommendations from the committees are approved, appropriate circulars or circular letters will be issued to the members. It is urged that any members having matters which require association attention should refer them to the secretary's office.

Southern Railway Battalion Activated

A hitherto "skeleton" railway battalion of the United States Army attached to the Southern has been called into active service, according to a statement of the railroad dated February 19. For training purposes the unit has been assigned to the line of the New Orleans & Northeastern (part of the Southern system) between Meridian, Miss., and New Orleans, La., where it will work in connection with the railway's regular personnel.

All officers of the battalion have been in the service of the Southern until their induction into the Engineer Corps of the Army. Enlisted personnel will be made up of volunteers and selectees with railroad experience. Lieutenant-Colonel Fred W. Okie, formerly division superintendent of the Southern at Birmingham, Ala., heads the unit, which was formed in 1930.

Illinois Central to Increase Some Commutation Fares

The Illinois Central will raise its rates 10 per cent on certain commutation fares in the Chicago suburban area on March 8, despite the order issued by the Illinois Commerce Commission on February 18, suspending for four months the tariffs for suburban rate increases filed by the I. C. and 13 other roads in the state. The other railroads are not joining the Illinois Central in this action. The situation on the Illinois Central is unusual, in that the rates being raised are those which are considered subject to a permanent injunction secured by that road against the Illinois Commerce Commission in 1925. Other rates, such as certain weekly tickets and rates for school children, that have been placed in effect since 1925, will not be raised until hearings before the Illinois

Commission and other legal procedure, if necessary, determine whether they can be raised. All rates on the Illinois Central, after the increases on March 8, will still be less than the maximum of 2 cents per mile prescribed by Illinois state law.

Group Formed to Oppose St. Lawrence Project

Plans for opposing the St. Lawrence waterway and power project and certain other provisions of the Omnibus Rivers and Harbors Bill were discussed at a meeting on February 19, which was attended by 42 members of the House of Representatives. The bill is pending on the House calendar and is scheduled to come up sometime early in March.

The group named Representative Cole, Democrat of Maryland, as chairman, and Representative Ploeser, Republican of Missouri, as secretary. It is understood that Mr. Cole will be in charge of the fight against the various projects including the St. Lawrence, when the bill comes up for House consideration. The meeting also adopted a resolution calling for the appointment of a captain and co-captain in each state delegation.

Ohio Valley Advisory Board to Meet at Columbus on March 10

Maintenance of adequate transportation service will be discussed at the 64th regular meeting of the Ohio Valley Transportation Advisory Board at the Deshler-Wallick Hotel in Columbus, Ohio, on Tuesday, March 10. The principal speaker will be R. E. Howe, of Cincinnati, Ohio, president of Appalachian Coals, Inc., who will address the luncheon. Highlights of the morning business session will include a talk on the national transportation situation by W. J. McGary, of Cleveland, Ohio, manager of the Car Service division of the Association of American Railroads; a general analysis of business conditions in the territory, and reports of committees and the railroads.

On the day preceding the meeting, the board's executive, car efficiency, railroad contact and loss and damage prevention committees will convene at the same hotel.

Buckles in Steel Sheets Not Wider Than 48 Inches

According to a circular letter, issued February 17, by the secretary of the A. A. R. Mechanical Division, Spec. M-117-37 for carbon steel sheets and thin plates, under Sect. IV, permissible variations in weight, thickness and size, Par. 17, Table VII, limits buckles in sheets not wider than 48 in. to a maximum height of 1/2 in. The steel companies, under present conditions, will not agree to furnish these sheets to other than the manufacturers' standard practice, which allows 3/4-in. buckles for this width of sheet. This has caused considerable controversy and correspondence between car builders, manufacturers of steel and railroads in connection with specifications for new freight cars.

This matter has been considered by the Committee on Car Construction and the Committee on Specifications for Materials, which are unanimously of the opinion that Spec. M-117-37 should not be modified to

permit buckles higher than 1/2 in. in these sheets, because the specification is not made primarily for the steel industry but to establish limits which have been found desirable in car construction. It is recommended, however, that individual purchasers relax the buckle limit in the specifications during the war period, because it devolves on all concerned to avoid any arbitrary position which might reflect on the total steel output of the mills and the total number of freight cars which may be built.

Maintenance of Automobile Loading Devices

Attention has been called to an increase in damage claims on automobile shipments due to failure of hold-down chains in device cars. This is of particular importance in view of the present large shipments of army trucks and other heavy automotive equipment.

In the interest of safety and to avoid damage to lading in transit, special attention should be given to hold-down chains during the inspection of device cars prior to loading to make certain that all chains and their attachments are in proper condition for use. Where links or other parts are found worn to the extent of reducing the original cross-sectional area by 25 per cent or otherwise defective, chains should be repaired or replaced.

The use of repair links should be discontinued, according to a circular letter, issued under date of February 16, by the secretary of the A. A. R., Mechanical division.

Tank Car Movement Hits New High

Tank car movement of petroleum and petroleum products to the Atlantic seaboard during the week ended February 14 was at the record rate of 256,725 barrels daily, oil companies using this method of transportation reported this week to Petroleum Coordinator Harold L. Ickes. The previous high of 222,975 barrels per day was recorded in the week ended February 7.

"In view of current difficulties with ocean transportation, the fact that the oil companies have, for the third successive week, succeeded in increasing the volume of tank car deliveries to record levels is especially significant," declared Deputy Petroleum Coordinator Ralph K. Davies.

In topping the former record, the oil companies reported that a total of 7,987 tank cars were loaded at shipping points during the week ended February 14 for forwarding eastward. This represents a daily average movement of 1,141 cars, compared with a daily average for the preceding week of 991 cars.

Protest Against Merging of Retirement Board

The Congressional Record of February 18 contains an extension of remarks by Representative Van Zandt, Republican of Pennsylvania, which sets out a letter from J. G. Luhrsen, executive secretary of the Railway Labor Executives Association, protesting against a recent editorial in a Washington, D. C., newspaper on the subject of merging the Railroad Retirement Board with the Social Security Board.

The editorial from the Washington Post of February 12, made the following declaration, among others: "The Railroad Retirement Board is moving to Chicago. There is no reason for its existence, except in the eyes of the rail union lobby. Merge it with Social Security."

Mr. Van Zandt protested against the suggestion of the editorial, but Mr. Luhrsen went on to declare that the government "does not contribute one cent" to the Railroad Retirement Act, not even administration expense. "The employees and the railroads," continued Mr. Luhrsen, "contribute equally for all of its administration expenses and the annuities which are paid. Compelling the moving of the Retirement Board to Chicago, we hope, will all the more remove it from all possibility of consolidation with the Social Security Board."

80 P. C. of Runs on Time—Or Change Schedule—Says State Body

The New York Public Service Commission issued an order on February 19 directing the New York Central to lengthen the schedule-time of any passenger train which fails to maintain an on-time record for 80 per cent of its runs in any given quarter of the year. Trains would be considered "on-time" if they arrive at ultimate destination within five minutes of the time stated in the public timetable.

Said the Commission: "Next to safety, there is no greater responsibility of a railroad than to render reasonably dependable service. This the company has failed to do in many instances. Complaints regarding the lateness of trains are widespread and it does seem the company has not appreciated its responsibility to its patrons and the public in the establishment of schedules that are so constantly disregarded." The commission's order was based on a study of 49 selected New York Central trains, a review of which was published in the *Railway Age* of January 24, 1942, page 266. Therein it was reported that A. H. Wright, general manager of the road, expressed the opinion that an 80 per cent on-time record was attainable by the Operating department.

Traffic Club of Chicago to Elect Officers

The Traffic Club of Chicago will hold its annual election and meeting at the Palmer House, Chicago, on March 26. The new officers selected by the nominating committee to be voted upon at this election include: For president, A. H. Schwieter, traffic director, the Chicago Association of Commerce; for first vice-president, E. B. Finegan, chief traffic officer, Chicago, Milwaukee, St. Paul & Pacific; for second vice-president, S. L. Felton, general traffic manager, Acme Steel Company; for third vice-president, J. H. Burke, vice-president and general manager, Chicago Tunnel Transport Company, Chicago Tunnel Company and Chicago Warehouse and Terminal Company; for secretary, Geo. H. Weiss, shipping editor, Chicago Journal of Commerce; for treasurer, R. J. Wallace, traffic manager, Jaques Manufacturing Company; for directors to serve for two years, William Haywood, freight traffic

manager, Illinois Central; D. W. C. Becker, director, traffic management department, LaSalle Extension University; Tom Wall, general agent, passenger department, Canadian Pacific; and F. J. Wasson, general traffic and industrial manager, Chicago & Western Indiana and the Belt Railway of Chicago. William Haywood, freight traffic manager of the Illinois Central system, is the retiring president.

Freight Car Loading

Loading of revenue freight for the week ended February 21 totaled 774,595 cars, the Association of American Railroads announced on February 26. This was a decrease of 8,104 cars, or 1 per cent below the preceding week, an increase of 96,072 cars, or 14.2 per cent, above the corresponding weeks in 1941, and an increase of 179,212 cars, or 30.1 per cent, above the comparable week in 1940.

As reported in last week's issue, loadings of revenue freight for the week ended February 14 totaled 782,699 cars, and the summary for that week compiled by the Car Service Division, A. A. R. follows:

Revenue Freight Car Loading			
For Week Ended Saturday, February 14			
District	1942	1941	1940
Eastern	165,136	163,270	130,621
Allegheny	174,707	161,880	123,700
Pocahontas	48,439	50,478	45,801
Southern	125,715	112,013	97,937
Northwestern	92,897	80,318	71,968
Central Western	115,743	101,323	92,801
Southwestern ..	60,062	51,894	45,409
Total Western Districts	268,702	233,535	210,178
Total All Roads	782,699	721,176	608,237
Commodities			
Grain and grain products	38,745	29,297	30,897
Live stock	11,197	10,720	11,083
Coal	154,718	152,908	132,405
Coke	14,109	14,239	10,005
Forest Products ..	47,603	39,328	30,532
Ore	12,920	13,478	9,821
Merchandise l.c.l.	151,515	153,049	142,987
Miscellaneous ..	351,892	308,157	240,507
February 14 ...	782,699	721,176	608,237
February 7 ...	784,060	710,196	627,429
January 31 ...	815,567	714,354	657,830
January 24 ...	817,804	710,752	650,187
January 17 ...	811,196	703,497	646,382
Cumulative Total 7 Weeks	5,425,032	4,885,781	4,451,231

In Canada.—Carloadings for the week ended February 14 totaled 61,912, as against 62,235 in the previous week and 55,093 in the corresponding week in 1941, according to the tabulation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Feb. 14, 1942	61,912	31,818
Feb. 7, 1942	62,235	32,404
Jan. 31, 1942	62,331	34,637
Feb. 15, 1941	55,093	29,117
Cumulative Totals for Canada:		
Feb. 14, 1942	420,713	215,144
Feb. 15, 1941	359,541	192,336
Feb. 17, 1940	330,667	166,812

Railroad Facilities for Columbia Basin Settlement

Railroad transportation facilities to serve the future settlers, industries and towns of the Columbia Basin project in Washington can be adequately provided with only few additions to the present operating systems, according to a preliminary report by Commissioner John C. Page of the Bureau of Reclamation.

This report was prepared by a special committee, headed by representatives of the five railroads now serving the project area, which was assigned to study Problem No. 20, one of a series of 28 problems of a planning program known as Joint Investigations of the Columbia Basin Irrigation Project. These investigations are being sponsored by the Bureau of Reclamation in cooperation with 40 agencies, federal, state, and local, both public and private, representing all the many interests involved.

The committee investigating railroad facilities found that nearly all irrigable land of the 1,200,000-acre area is within 12 miles of an existing line, and the greater portion of it within six miles. The five railroads which now serve the project area with main or branch lines are the Great Northern; Northern Pacific; Chicago, Milwaukee, St. Paul & Pacific; Union Pacific; and the Spokane, Portland & Seattle. In releasing the preliminary findings on the railroad problem, Commissioner Page stated that irrigation of the Columbia Basin is expected to begin in 1944 or 1945, providing adequate funds are appropriated by the Congress.

N. Y. Legislature Visits G-E and American Locomotive Plants

A war-minded New York State Legislature moved in a body from Albany to Schenectady, N. Y., on February 17 for a first-hand view of the productive efforts of the General Electric Company and American Locomotive Company plants as guests of the Schenectady Chamber of Commerce and the two companies. The 190 members of the senate and assembly who made the unprecedented trip in eight chartered buses applauded executives as they told of war efforts of the two companies.

"Increasing productive capacity of American industry appears, today at least, to be the only bright light on the horizon of war," said Assembly Speaker Oswald D. Heck at a dinner following the tour.

Several new army tanks were demonstrated for the group at the American Locomotive proving grounds. At the G-E plant, they were shown power plant and ship propulsion turbine work, a new blackout light, and took part in a television demonstration. In addition to Assemblyman Heck, speakers included: Lieutenant-Governor Charles Poletti; Charles E. Wilson, General Electric president; William C. Dickerman, chairman of the board of the American Locomotive Company; D. W. Fraser, president, and R. B. McColl, vice-president, American Locomotive Company; Chester H. Lang and H. A. Winne, General Electric vice-presidents; J. M. Howell, manager of the G-E Schenectady works; W. L. Lentz, manager of the Schenectady American Locomotive Works; and Dudley M. Diggs, G-E illuminating engineer.

"If we unleash our national energies to the unnumbered immediate tasks," said Mr. Dickerman, "we will come out of this war not only with victory but with new industrial and individual skills, the product of pent-up effort, which will give us lasting peace-time occupations."

President Wilson of G-E told the legislators that radio and refrigerator production by his company had been stopped to

convert these resources to war needs, and to train and adjust the workers involved to new tasks. "We increased our war effort by 65 per cent in 1941," he said, "and today, in 1942, we are running at a rate of nearly 100 per cent greater production in the heavy apparatus lines—and we are making many products, furthermore, which have been entirely foreign to our previous experience."

Except for 11 absentees, the entire legislature made the trip to Schenectady in the first journey of this kind ever made by that body.

President Abolishes Federal Loan Agency

Acting under authority of the First War Powers Act, President Roosevelt on February 24, abolished the Federal Loan Agency and transferred the Reconstruction Finance Corporation and its various satellite corporations to the Department of Commerce, which is headed by Jesse Jones, who also held the title of Administrator of the Federal Loan Agency. This action, which will not change the operation of the RFC and its subsidiaries, was taken after many of the housing agencies, which were included in the Federal Loan Agency, were, at the same time transferred and consolidated into a new agency to be known as the National Housing Agency.

The order, which becomes effective immediately and runs until the termination of Title 1 of the First War Powers Act, provides that all functions, powers, and duties of the Federal Loan Agency and of the Federal Loan Administrator which relate to the RFC, Electric Home and Farm Authority, RFC Mortgage Company, Federal National Mortgage Association, Disaster Loan Corporation, Export-Import Bank of Washington, Defense Plant Corporation, Rubber Reserve Company, Metals Reserve Company, Defense Supplies Corporation, and the War Insurance Corporation, together with all functions, powers, and duties not transferred by the executive order establishing a National Housing Agency, are transferred to the Department of Commerce and shall be administered under the direction and supervision of the Secretary of Commerce.

Storage of Wool and Mohair in Mountain-Pacific Territory

Railroad practices of using serviceable box cars for the storage of wool and mohair at points of origin in Mountain-Pacific territory and of allowing 10 days free time for the loading of such cars have been condemned by the Interstate Commerce Commission as unreasonable car service practices. The same decision found not unreasonable or otherwise unlawful the practices of rail and motor carriers in according on the wool and mohair 60 days free storage in some instances and 10 days free storage in other instances, except in serviceable box cars.

The decision is in No. 28530, and the majority report was written by Commissioner Johnson. Acting Chairman Aitchison dissented in part, being of the opinion that there is nothing in the existing practices which calls for condemnation. "As a matter of daily administration of the act," Mr.

Aitchison said, "we know that the trans-continental railways, as highly important links between the oceans, are making strenuous efforts to meet the demands made upon them by the national defense preparations. We should not interfere with them at this stage upon so small a matter. When there is evidence that their car service practices are not meeting the emergency, we can correct the practice by our emergency service order. Until then we should not compel revision of a practice which no one condemns, with at utmost only a slight theoretical benefit to the service obtainable, especially when the result will burden unnecessarily another industry important to the national defense."

Commissioners Lee, Mahaffie and Splawn agreed with Mr. Aitchison, while Commissioner Alldredge did not participate in the proceeding.

Pennroad Backs Suit to Recover Alleged Losses from P. R. R.

The Pennroad Corporation, which heretofore has taken a neutral position in a stockholders' suit seeking recovery from the Pennsylvania of alleged losses suffered by Pennroad in behalf of the railroad's interests, now performs an "about face" and has announced its intention of siding with the plaintiffs against the railroad. In his annual report to stockholders, Benjamin F. Pepper, president of Pennroad, declares that the opinion of Judge G. A. Welsh, handed down December 20, 1941, favorable to the plaintiffs, "necessitates a change in the position of neutrality heretofore taken." Pointing out that the decision may be appealed by the Pennsylvania (railroad counsel has intimated this possibility, as was reported in the *Railway Age* of December 27, page 1096), Mr. Pepper states that the corporation will commit itself to payment of all necessary costs and expenses connected with the appeal proceedings and all costs and expenses paid and incurred by the plaintiffs in the trial of the case from its inception to date—with the exception of the fees of attorneys.

The Pennroad board has made provision for the increase of its membership by two and has appointed a committee to confer with counsel for the plaintiffs in the suit for the purpose of choosing nominees for the positions thus created. Names of such nominees will be submitted to stockholders at the annual meeting scheduled for March 26.

The suit referred to—identified as the "Overfield-Weigle Case"—charged present and former officers of the Pennroad Corporation and of the Pennsylvania with losses of \$95,500,000 of funds through mismanagement. Trial of the case began on February 10, 1941, and continued during a period of four months, the evidence consisting of 920 exhibits and testimony filling 13,740 pages. In addition, there were 11 days of argument covering more than 1,600 pages. Judge Welsh of the United States District Court at Philadelphia, Pa., found, that while the directors of Pennroad were not guilty of conspiracy, fraud or personal dishonor, "their dual position [i. e., as officers of both the Pennsylvania and Pennroad] of itself placed them in a position where such breach might have

been committed by either side at any time"; and that "the liability of the defendants in this case is based upon their dealings with Pennroad's property and powers in a manner designed to benefit Pennsylvania railroad. It exists regardless of any degree of good faith exercised because the defendants planned the domination and continued control of Pennroad which resulted in losses to Pennroad and benefit to Pennsylvania railroad."

The court held that the Pennsylvania is chargeable with the whole amount of the capital contributed to the National Freight Forwarding Company on its behalf—\$3,852,000—and required the railroad to reimburse Pennroad for this sum, together with any net profit it received from the operation of National Freight on its behalf by Pennroad. The court further directed that "a further inquiry should be made as to the various elements entering into a determination of values and the prospects of the Pennroad investments in railroad securities and the losses and the causes of decline in values, with a view to establishing a fair and equitable measurement of the redress to be granted and of the financial obligation to be imposed."

Pennroad Corporation was organized in 1929 by certain officers of the Pennsylvania and others as a holding company, interested principally in transportation enterprises. As pointed out during the trial by Robert T. McCracken, counsel for the Pennsylvania, Pennroad was organized both to make a profit on its investments and to direct funds into the transportation enterprises and purchases which would seek to head off aggressions against the interests of the stockholders of the Pennsylvania railroad.

Northwest "Umbrella" Petroleum Rates Modified

With Commissioner Porter complaining that the decision was "tantamount to a reversal of our findings in I. & S. 4614," the Interstate Commerce Commission has refused to condemn certain Oregon intrastate rates on petroleum products and interstate rates published to compete with them. The I. & S. 4614 proceeding, which went to the Supreme Court where the commission was upheld, was the case involving the principal interstate rail and truck rates on petroleum and its products in the Mountain-Pacific Northwest. The railroads contested the decision with objections based on a contention that the minimum rates imposed upon them were higher than compensatory rates and were calculated to hold an umbrella over their higher-cost competitors.

The intrastate rates involved in the present proceeding (No. 28609) apply from Portland, Ore., Linnton, and Willbridge to certain points in Oregon east of The Dalles on the Union Pacific. The interstate rates under suspension in I. & S. 4846 are published for application from Portland, Linnton and Willbridge to Pendleton, Ore., Athena and Milton, and certain intermediate destinations in Washington. These rates, the commission said, are "slightly lower" than the minimum rates prescribed in I. & S. 4614; and protestants had asked that they be brought into line with that adjustment.

The commission, however, found itself unable to conclude that the intrastate rates would result in unjust discrimination against interstate commerce. And its finding with respect to the interstate rates was based "solely on the fact that these rates are necessary, as a business proposition, to meet the intrastate rates." The report added that the latter "does not necessarily indicate what our views would be, if this circumstance did not exist."

Commissioner Porter's dissenting expression was subscribed to by Commissioner Lee, while the dissent of Commissioner Rogers was noted. Commissioner Johnson did not participate.

New England Shippers Fear Government Penalties for Car-Use Time

Shippers attending a special meeting of the New England Shippers Advisory Board in Boston, Mass., on February 12 expressed great concern over "threatened" imposition by the government of new penalties for holding cars for loading and unloading and agreed generally that they themselves must get results in car efficiency if such action is to be averted. W. H. Day, manager, Transportation department, Boston Chamber of Commerce, and chairman of the Board, told the members that he had participated in a number of conferences in Washington, D. C., held by Commissioner J. Monroe Johnson of the I. C. C.'s Bureau of Service in which the latter advocated penalties and decreases in shippers' free time, etc., although his own thought is that "Colonel Johnson is softening toward the idea that we shouldn't be hasty in putting on these penalties." Specifically the Commissioner made the statement that he had 22 restrictive orders already written out; "that they could be put into effect overnight" and that they would be made effective if the shippers did not demonstrate that they were going to co-operate voluntarily.

These conferences, Mr. Day added, "have broken up with the understanding that the particular group involved would return to its home area, there to call together such men as might be particularly interested in the phase of transportation which had been discussed, and see if jointly they were willing to take the initiative in their home area in effecting corrections. Furthermore, Commissioner Johnson asked that he be apprised of progress made in local areas by such efforts."

In this connection, the Board voted that the general chairman (1) issue publicity to inform shippers in New England territory of the threat of government penalties in the absence of voluntary co-operation; (2) appoint committees to work with railroad officers in speeding up loading and unloading time; (3) report all instances of delay which cannot be remedied by these local committees to the O. D. T. and I. C. C. and (4) appoint a special committee to encourage heavier loading. Discussion brought out the point that local car efficiency committees must whip unco-operative shippers into line if their programs are to succeed. To do this they must get information from the railroads regarding the behavior of individual shippers, which information the carriers have been loathe

to furnish. Mr. Day expressed the opinion that this reluctance is no longer likely or practical and that "we can depend upon the whole-hearted co-operation of our railroad friends in supplying the type of information referred to." He went on to urge that the local railroad freight agent be made a member of local shippers' committees as the man "best qualified to know who is not doing the sort of job that might reasonably be expected."

The address of Joseph B. Eastman, director, Office of Defense Transportation, was summarized in last week's *Railway Age*, page 426.

Traffic Through Ports Being Kept Moving

The Port Traffic bureau of the Association of American Railroads has kept the ports of the United States, without exception, in a liquid condition, declared G. C. Randall, manager of port traffic of the A. A. R. in an address at the regular monthly meeting of the Ocean Freight Agents Association of Chicago on February 23. Mr. Randall added that on the Atlantic, Gulf and Pacific coasts the railroads are, at the present time, holding 21,000 cars of export freight on wheels and 17,000 cars in storage. The accumulation of export freight on wheels as of February 22 at New York was equivalent to 8.2 days of unloading capacity; at Boston, Mass., 11 days; at Philadelphia, Pa., 12 days and at San Francisco, Cal., 10 days. Mr. Randall felt that the 10 days "bank" at San Francisco was an exceptionally good showing in view of the fact that traffic through that port had increased 40 per cent since last November.

Traffic being handled through the port of New York last month, he stated, was 97 per cent of the World War peak, and explained that in 1939 this port was handling a daily average of less than 500 cars of export and coastwise freight, as compared to an average of 1,300 cars a day last month. The peak movement at this port during World War I in October, 1918, was 1,350 cars daily. The ports of Boston, Philadelphia, Baltimore and Hampton Roads have also shown substantial increases in export traffic.

This volume of export freight is being moved, Mr. Randall stated, without congestion or delay, and added, that by carefully avoiding the use of railroad-controlled port facilities for freight storage, and concentrating the use of such facilities for transportation, the port congestion of 1917-1918 will be averted and the railroads will be able to increase their total port commerce handlings to supply the war supply and commercial cargoes for the "two a day" ship construction program of the Maritime Commission.

Retirement Board Wage Figures

Railroad employees who had some employment in each of 1940's 12 months earned for that year an average wage of \$1,859, according to the latest compilation of compensation and service data issued by the Railroad Retirement Board. The compilation also shows that all employees, including 127,776 who had work in only one month and total 1940 earnings of less than

\$50 each, had a 1940 average wage of \$1,333.

Averages calculated on the latter basis from previous Retirement Board compilations were the favorite "annual-wage" figures of the labor organizations in the 1938 and 1941 wage cases. The \$1,859 figure, however, is more nearly comparable with an average based on the Interstate Commerce Commission's mid-month count, which, as the commission's Bureau of Statistics has put it, "happens to give the correct result if one is interested in what a full-time worker can earn." The Retirement Board figures exclude pay in excess of \$300 a month, since that is not reportable or taxable under the Carriers Taxing Act.

The total number of employees who had work in each of 1940's 12 months was shown as 1,053,402 or 63 per cent of the 1,670,947 who earned some reportable compensation in that year. Data for Class I roads show that 905,681 of their employees had work every month; and the average 1940 wage of that group was \$1,877. Calculated on the same basis, the average 1940 wages on Class I roads by occupational groups were as follows: Executive, professional, and supervisory, \$2,901; gang foremen, \$1,903; clerical, \$1,814; maintenance of way and structures, skilled, \$1,804; extra gang men, \$960; maintenance of way laborers, other than extra gang, \$937; maintenance of equipment, skilled, \$1,980; maintenance of equipment, unskilled, \$1,166; helpers and apprentices, \$1,443; station agents and telegraphers, \$1,969; station and platform laborers, \$1,208; engineers and conductors, \$2,874; firemen, brakemen, switchmen, and hostlers, \$2,265; occupations not elsewhere classified, \$1,234. The comparable average for employees of the Railway Express Agency was \$1,808; while that for employees of the Pullman Company was \$1,452.

Machinists' Union Would Own Half a Pipe Line at R. F. C. Expense

A public hearing before a board composed of B. H. Meyer, C. E. Childe and J. Paul Kelley was held on February 19, on a request of the Trans-America Pipe Line Corporation that Defense Transportation Director Joseph B. Eastman recommend to the President that a proclamation be issued that the construction of a crude oil pipe line from a point in Texas to Savannah, Ga., is, or may be, necessary for national defense purposes. Half of the stock of the company which wishes to build the pipe line is owned by the International Association of Machinists—but all of the cost of construction, it is contemplated, would be covered by a government loan.

Mr. Meyer is a former member of the Interstate Commerce Commission; Mr. Childe is a member of the Board of Investigation and Research created by the Transportation Act of 1940; and Mr. Kelley is an examiner on the staff of the commission.

The principal witnesses were V. G. Shinkle, consulting engineer of New York City who is acting as engineer for the corporation; and Aldace F. Walker, vice-president of the corporation, whose grandfather was one of the first Interstate Commerce

Commissioners. No opposition appeared at the hearing, which occupied only one day.

Mr. Shinkle told the board that the Tapco line would begin near Wichita Falls, Tex., and extend eastward 1,050 miles, passing through the northern tier of counties in Texas, along the border between Arkansas and Louisiana and on through the states of Mississippi, Alabama, and Georgia. The company, according to the witness, proposes to begin the line with a 10¾ inch line for the first 300 miles or approximately to the east Texas line; from there the size would be increased to a 12¾ inch line and continue as such to Savannah. The total cost is estimated at between \$20,000,000 and \$25,000,000.

As planned, the line would be strictly a common carrier and would have no interest in any way in the oil which it would transport. The promoters of the line expect to obtain a 100 per cent loan from the Defense Plant Corporation, a subsidiary of the Reconstruction Finance Corporation, according to testimony given to the board.

Mr. Walker described the project in detail and urged the board to give it a favorable recommendation. He also told the board that if his company was not permitted to build it, he hoped that some other agency would build it, as it was vital to the national defense. Asked as to who was backing the corporation, Mr. Walker revealed the connection of the International Association of Machinists with it.

Retirement Board Operations in January

More than half a billion dollars had been paid out under the Railroad Retirement Act by the end of January, according to the Railroad Retirement Board. Benefits certified to the Treasury in that month amounted to \$10,487,415, bringing to \$503,719,306 the total certified since the beginning of operations.

Through January the Board had certified 155,062 employee annuities, 48,548 pensions to former carrier pensioners, 3,184 survivor annuities, 6,140 death benefit annuities, and 50,021 lump-sum death benefits. A total of 1,418 applications for employee annuities was received in Washington in January, a slight increase over December. During the month 1,142 new employee annuities were certified compared with 1,607 in December. This was the smallest number of new certifications since July, 1937. The decline reflects in part administrative difficulties arising out of the initiation of plans for moving the Board out of Washington, the Board's statement said.

At the end of January, 123,748 employee annuities were in force with a monthly amount payable of \$8,148,162; the average payment was \$65.84. Pensions in force at the end of January totaled 29,083 with a total monthly amount of \$1,715,429; the average payment was \$58.98. Assets of the railroad retirement account at the end of January consisted of \$111,500,000 in Treasury notes and \$1,711,090 in cash.

Unemployment insurance claims receipts in January "apparently reached and passed the peak for the current benefit year," the Board said. From 16,100 in the last week

of December, claims increased to nearly 20,900 in the middle of January and declined to a weekly level of 18,500 in the second half of the month. Total benefits certified in January amounted to \$1,303,382, of which \$1,301,533 applied to certifications for the current benefit year. The average benefit on claims with a maximum of 10 compensable days was \$20.45.

Employment service operations declined in January. Placements averaged only 620 a week compared with 1,250 in December. The jobs filled were mainly in occupations of relatively low skill, such as snow shovelers, laborers, and freight handlers. There was, however, the placement of some 220 people in the junior train and engine occupations, mostly switchmen and brakemen and of more than 100 mechanics and helpers in the railroad jobs and outside the railroad industry. Notifications were received during the month of 4,533 openings, of which 2,514 were with railroad employers. Because qualified personnel could not be located, 3,950 previously reported openings were canceled. More than 4,200 applicants were referred to available vacancies and 2,474 were placed.

WLB Requests McNear to Arbitrate T. P. & W. Dispute

On February 20, the National War Labor Board wired George P. McNear, president of the Toledo, Peoria & Western, suggesting that he allow the National Railway Mediation Board to arbitrate a dispute over working rules which resulted in a strike of train service employees on that road on December 28. The wire suggested that if Mr. McNear were not agreeable—"it will be necessary for the National War Labor Board to take further steps in the premises because these are times when labor disputes must be settled by peaceful processes in accordance with the national understanding that there shall be no strikes or lockouts during the war."

To this wire Mr. McNear replied that WLB evidently had been misled or misinformed regarding facts surrounding the dispute and said that he would mail the board information that would give "an entirely different view as to the situation on this railroad" and added that "we are handling all war and defense traffic ordered." A hearing of WLB to discuss procedure was called for February 27.

The hearing, which will be before the full board, will be devoted to a discussion of the procedure which should be adopted in a final disposition of the case on the merits, according to a board announcement.

At the same time the board announced that it had decided to open hearings before the full board to the public. "The practice by public bodies of holding open hearings is one of the hallmarks of democracy," William H. Davis, chairman of the board, said in commenting on the change in procedure. "Because of the national agreement between labor and management that there shall be no strikes or lockouts for the duration of the war and that all disputes shall be settled by peaceful means, the decisions of the board have a quasi-judicial character. The American people are entitled to as much information

as possible concerning the facts considered by the board in reaching its decisions."

The board amended Rule 10 of the Administrative Regulation No. 2, Rules of Procedure, to open hearing sessions of the board to the public unless in particular cases the board rules otherwise.

The complete text of the wire sent by the WLB and signed by Wayne L. Morse, public member, is as follows:

"The United States Department of Labor has certified pending dispute between your company and the Brotherhood of Locomotive Firemen and Enginemen and the Brotherhood of Railroad Trainmen for consideration by the National War Labor Board. The Board has not as yet taken official jurisdiction of the case because it believes that the case should be handled if possible by the National Railway Mediation Board under the Railway Labor Act. However the National War Labor Board is unanimously of the opinion that you should agree to arbitrate the dispute in accordance with the request of the National Railway Mediation Board previously made of you. The National War Labor Board has been in consultation with the National Railway Mediation Board and is informed that the National Railway Mediation Board stands ready and willing to proceed with arbitration of the dispute. Please notify the National War Labor Board immediately by return wire if you are willing to proceed with arbitration of dispute under auspices of the National Railway Mediation Board. If you are unwilling to proceed with arbitration under jurisdiction of the National Railway Mediation Board it will be necessary for the National War Labor Board to take further steps in the premises because there are times when labor disputes must be settled by peaceful processes in accordance with the national understanding that there shall be no strikes or lockouts during the war. As the record now stands this particular dispute is being fought out on the line of economic force exercised by both employer and unions. It is the unanimous opinion of the War Labor Board that this dispute must proceed to settlement without any further delay and hence in accordance with the spirit and intent of the Executive Order creating the War Labor Board we urge that you agree to arbitrate this case under the auspices of the National Railway Mediation Board. In light of serious war emergency this Board is confident that you will co-operate with the government to the end of settling this case in arbitration."

The complete text of Mr. McNear's reply is as follows:

"Your wire sent last evening indicates misinformation or misunderstanding of facts: Recent newspaper articles suggest that brotherhoods representing former employees have been endeavoring to high pressure your board. We will mail you soon as possible statements and other information which we believe will give your board an entirely different view as to the situation existing on this railroad and the best means by which the T. P. & W. can continue to co-operate and render the greatest and most efficient service in the war program. We are handling all war and defense traffic ordered and are much pleased with the increasing volume entrusted to our care."

New York Commission Rejects Commuters' Fare Rise

The New York Public Service Commission handed down a 44-page decision on February 24 denying the applications of 11 railroads in the state to increase commutation fares by 10 per cent, effective March 1. The increase would have been in conformity with passenger fare increases throughout the country, authorized by the Interstate Commerce Commission and effective February 10.

General tenor of the report was dissatisfaction with the railroads' case for an increase based on higher operating costs incurred specifically in rendering commuting service. Wrote Milo R. Maltbie, chairman of the state commission: "There is nothing in any [individual railroad's] case regarding the value of the property assignable to commutation service. No attempt has been made to show the operating costs, collectively or individually, for commutation service upon any railroad. Taxes and depreciation have likewise been untouched. Even the data submitted as to

increased costs have not been related to commutation service, either directly or by use of percentages. In no case has there been any attempt to show what the effect of increased traffic would be. Even in the instances where the commission has had commutation rates cases, there has been no attempt to bring the decisions therein made down to the present."

Mr. Maltbie asserted that the question of commutation fares within the state had been within his commission's jurisdiction for 20 years and had never been the subject of a finding of the I. C. C. If commutation fares are traditionally linked with general interstate passenger fares in rate cases, it necessarily follows that commutation fares should have been reduced whenever general passenger fares were reduced. Actually, he declared, no mention was made of commutation fares when general coach fares were reduced some years ago.

Emphasizing that the burden of proof rests upon the railroads to present a case for increasing commutation fares and that commutation rates cannot be considered in the general body of interstate passenger fares data, the commission chairman said that in the recent hearings before the I. C. C. no testimony was presented regarding commutation fares and no specific finding on them was made by the I. C. C. In connection with the brief of one counsel which relied upon the I. C. C.'s blanket increase as a general argument for an intra-state commutation increase, the report said, "He asks us to disregard the specific provisions of the Public Service Law and approve increases even without knowing how much they would be and what relation they bear to the alleged increased cost of the service being considered. This we have not done in prior commutation cases and are not prepared to do now."

Anticipating that the railroads will take steps to appeal the decision, Mr. Maltbie expressed the opinion that the railroads did not attempt even a *prima facie* case because "they intended to rush immediately to the Interstate Commerce Commission" for an order which would deprive the New York Commission of its authority over commutation fares. Averring that the proper procedure for the railroads is to appeal the decision in the state courts, he declared, "If the railroads attempt to bypass the state courts by rushing to the I. C. C., notwithstanding their complete failure to bear the burden of proof in this state, that situation will be considered and dealt with by the commission when it arises."

The commission's decision does not effect commutation fares entirely within the City of New York, jurisdiction over which is vested in the New York Transit Commission. This body took testimony jointly with the state commission at the latter's hearings in connection with the railroads petition and was expected to announce its decision within a few days of the state commission's report. The decision of the Public Service Commission affects principally the New York Central, New York, New Haven & Hartford and Long Island out of New York City. Commutation service out of Buffalo and Albany is relatively unimportant. The decision of the

City Transit Commission will affect principally the Staten Island Rapid Transit (part of the Baltimore & Ohio) the lines of which lie entirely in Richmond borough of New York City.

Arizona Train-Limit-Law Declared Unconstitutional

In a decision rendered on February 11 by Judge Levi S. Udall presiding in the Superior court of the state of Arizona for Pima County, Ariz., the train-limit law enacted in 1912 was declared unconstitutional. This decision was rendered in a suit brought by the state of Arizona at the relation of Attorney General Joe Conway to recover penalties from the Southern Pacific Company for the operation of two trains; one a passenger train of 16 cars operated on March 2, 1940, and the other a freight train of 91 cars operated on April 4, 1940. The Arizona train-limit law prohibits the operation of passenger trains of more than 14 cars, or of freight trains of more than 70 cars, exclusive of caboose.

This case was on trial for 46 court days and 73 witnesses testified, including Dr. Julius H. Parmelee of the Bureau of Railway Economics, Association of American Railroads, and representatives from 16 major railroads. It is the fifth of a series of court cases involving the validity of state train-limit laws but is the first case to be tried in a state court and also the first in which the evidence has been presented to the judge who rendered the decision. In all of the other train-limit cases, the proceedings have been before special federal district courts of three judges, and of the two which have been heard on oral evidence (the first Arizona and the Nevada cases), the trials were before special masters, while the other two cases (in Oklahoma and Louisiana) were heard upon affidavits.

It was brought out in the testimony that at the time when this law was enacted, freight trains on this portion of the Southern Pacific averaged only 47 cars and only 0.38 per cent of the trains had more than 70 cars, while passenger trains averaged only 9 or 10 cars. Yet in 1938, 4,304, or 30.8 per cent more freight trains were operated between Yuma and El Paso than were actually necessary if it had not been for this law. Furthermore, the railroad testified that if this law were invalidated, it would immediately initiate a program of improvements involving the expenditure of more than \$1,000,000 to extend sidings and yard tracks at 49 different stations, to provide larger locomotives, and to reconstruct certain roundhouses and turntables and provide additional repair facilities to accommodate these locomotives.

In presenting the case, the Southern Pacific admitted the operation of the two trains which formed the basis of the action, and based its defense entirely upon the ground that the law is unconstitutional, in violation of both the Commerce clause and the Due-Process clause of the Fourteenth Amendment of the Federal Constitution, and the corresponding Due-Process clause of the Arizona Constitution.

In passing upon these points, the court concluded, first, that the subject of regulation of lengths of interstate trains is one

as to which Congress possesses exclusive power under the Commerce Clause, and that, therefore, the state has no power of regulation whatsoever; second, the law operates extra-territorially and, therefore, violates the Commerce clause, because it regulates interstate commerce in adjoining states; third, the law imposes undue burdens of expense and interferes directly and substantially with interstate commerce, because it delays and interferes with interstate trains and commerce in their passage across Arizona as well as across adjoining states; fourth, if the law be claimed to be a necessary regulation of the lengths of trains to the number of cars which can be safely handled and controlled with the present types of air brakes, etc., it constitutes an invasion of a field of regulation already occupied by Congress, through the passage of the Safety Appliance Acts and companion statutes, and is, therefore, void; and fifth, and perhaps most important of all, the law, as a claimed safety measure, bears no reasonable relation to that object, but on the contrary, fails to reduce substantially any of the hazards of railroad operation, and indeed actually increases certain hazards and creates certain others which would not exist if it were not for the law.

W. Virginia Taxes Boosted; the Courts Disagree

The Board of Public Works of West Virginia, which boosted the evaluation for tax purposes for 1941 of three trunk line railroads by substantial amounts, was sustained in its rulings in one county circuit court, not sustained in another and is awaiting ruling in still another. Judge J. F. Brown of the Circuit Court of Randolph county on February 14 decided in favor of the Western Maryland that the increase in its assessment from \$8,000,000 for 1940 to \$11,074,200 for 1941 was excessive; reassessed the property on the record made and fixed a valuation of \$8,504,240. The railroad had appealed the increase and in addition had argued that the assessment as a whole should not exceed \$5,000,000.

In fixing the valuation, Judge Brown held that, in view of the inferior character of the property and the higher operating expenses within the state, the assessment was "unreasonable, erroneous, excessive, confiscatory, unjust and illegal and in violation of the law." The court pointed out that the higher assessment was clearly the result of not making proper allowance for the company's large terminals and better track generally outside of the state where the main line is located, with the exception of a few miles which cross into West Virginia. The opinion pointed out that most of the West Virginia trackage consists of long branch lines of relatively poor construction and over which the traffic is relatively light. In its answer filed in the court proceedings and at the court hearing, it was contended on behalf of the tax board that all of the trackage of the system constituted an organic unit for assessment purposes and that the assessment of \$11,074,200 was entirely too low. In fact, the board sought to have its own assessment increased in the court proceeding from \$11,074,200 to \$19,800,000.

The state board raised the assessment of the Chesapeake & Ohio from \$79,630,300 for 1940 to \$97,901,100 for 1941 taxes—an increase of almost 23 per cent. The road has filed a petition in the circuit court of Fayette county appealing the assessment as excessive and illegal and is awaiting decision thereon. It has been learned from the railroad that while it considered its 1940 assessment excessive also and requested a reduction from the board, it did not contest it in the courts principally because it was about the same as the assessments for previous years. It is the heavy increase in assessment for 1941 that prompted its court action. The increase applies almost entirely to Class III and IV real and personal property.

The Norfolk & Western, which had its assessment raised from \$65,191,700 for 1940 to \$75,325,000 for 1941, unlike the Western Maryland, received an adverse court decision in its appeal. The circuit court for McDowell county held that the increased valuation was fair and declared that the presumption is in favor of the tax board because "it is in a better position from experience and with the aid of its accountants and other sources of information to determine the correct valuation than this court."

I. C. C. Calls on Scott Brothers to Make a Choice

Scott Brothers, Incorporated, affiliate of the Pennsylvania, has been called upon by Division 5 of the Interstate Commerce Commission to decide whether it wishes to continue operations under a common-carrier certificate or operate under a contract-carrier permit.

The choice which must be made by Scott Brothers was offered in No. MC-52405 and No. MC-52405 (Sub-No. 1), which involves an application for a "grandfather" contract carrier permit for its operations as a contract carrier of general commodities between points in Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and the District of Columbia, over irregular routes. At present the applicant is operating in the same territory under authority of a "grandfather" certificate as a common carrier.

The applicant contends that the two services are not competitive and that the continuance of both is consistent with the public interest and the national transportation policy. With this contention a majority of Division 4 said they could not agree. "To permit applicant to transport property as a common carrier by motor vehicle, charging its published tariff rates to all who desire its services and, at the same time, to transport the same commodities in the same territory as a contract carrier whenever it chooses to enter into a contract for the providing of trucks with drivers to particular shippers having large volumes of traffic to transport, would," declared the majority, "provide applicant with the means of accomplishing the very practices which section 210 of the act is intended to prohibit, namely, the granting of rate and other preferences to favored shippers. This field of possibility for discrimination is enlarged by reason of applicant's affiliation with the Pennsylvania Railroad Company."

However, Division 5 felt that it was not justified on the present record in denying the application because of the dual operation feature, and decided to give the applicant the choice of deciding whether it would operate as a common or contract carrier.

The decision also involved Scott Brothers' application to extend operation as a contract carrier by motor vehicle of steel products from Jersey City, N. J., to certain points in New York, New Jersey, Connecticut, and Pennsylvania. The majority denied this extension application, taking the position that the W. G. Corporation, which is controlled by Scott Brothers, is now performing and has performed this contract service for Joseph T. Ryerson & Son, Inc., and that since Scott Brothers had acquired control of the W. G. Corporation without commission authority, it would not now legalize the transaction. The majority decision went on to say that the commission has twice denied Scott Brothers authority to acquire control of the W. G. Corporation. Commissioner Lee dissented in part, expressing a fear that the denial of the applications involving the W. G. Corporation operation might result in the disruption, or even discontinuance, of "a service now greatly needed in the public interest."

"Vigilance Committees" of Shippers

In more than 300 communities throughout the United States, shippers have organized themselves into "vigilance committees" to help see that railroad freight cars are kept moving in their essential business of transportation, according to Alvin W. Vogtle, of Birmingham, Ala., president of the National Association of Shippers Advisory Boards. Other committees are being formed daily, he added.

Organized under the leadership of the 13 regional Shippers Advisory Boards which cover the entire country, the committees keep close watch on the use made of freight cars by shippers in their communities to insure that they shall be promptly loaded and unloaded so that they will be available for further service.

"The shippers of the country are in agreement with the Office of Defense Transportation that transportation is basic and not secondary in the war effort," Mr. Vogtle said. "They agree that there should be every possible conservation of critical materials, such as rubber and steel, through the maximum possible efficiency in the use of transportation. That's why they are organizing these committees to work locally and cooperatively for such efficiency in car handling."

"The formation of these 'car efficiency' or 'vigilance' committees is the latest phase of organized cooperation of shippers and receivers of freight in keeping the railroad freight car supply fluid and available for maximum use. In 1941, the railroads were able to handle the largest movement of freight in history with 600,000 fewer freight cars than were in service in 1929, the next largest year recorded. Organized cooperation and assistance of the shippers of freight was a major contributing cause to the 1941 record. The extension of this cooperation through the work of the 'vigilance commit-

tees' is counted upon to help make an even better record in 1942 as part of America's war effort."

In the Midwest district centering around Chicago, 55 "vigilance committees" are already functioning, with at least 45 others now being organized. From this center, the movement has spread over the entire United States, with more than 250 committees already at work in the rest of the country and others being organized daily.

The Association of American Railroads, through its Car Service Division, is arranging to have furnished to the committees a weekly record of cars held under load more than 48 hours in their communities. With such information, the committees will be in position to deal with those who fail to release cars promptly.

The committees are giving attention also to the complete unloading of cars before their return to the railroads for use by other shippers. If debris is left in a car after it is unloaded, the car must be switched to a cleanout track, resulting in the loss of the use of the car for not less than one day in each case. The practice of some shippers' failing to unload cars completely causes the loss of several million car-days in the course of a year.

Equipment and Supplies

Santa Fe to Spend \$10,000,000: 30 Locomotives Ordered

On February 24, the directors of the Atchison, Topeka & Santa Fe approved the purchase of 10 5,400-hp. Diesel-Electric freight engines, 20 steam locomotives of the 4-8-4 type and 100 60-ft. flat cars, costing approximately \$10,000,000. All of the equipment will be ordered for delivery in 1943. The Electro-Motive Corporation will build the Diesel-electric locomotives, the Baldwin Locomotive works the steam locomotives and the order for the flat cars will be awarded later.

LOCOMOTIVES

The NORTHERN PACIFIC is inquiring for 15 steam locomotives of the 4-6-6-4 type.

THE LEHIGH VALLEY has purchased 10 Diesel-electric switching locomotives of 1,000 hp. each, allocating five to the Electro-Motive Corporation and five to the American Locomotive Company.

The NEW YORK, CHICAGO & ST. LOUIS has ordered for freight service 10 2-8-4 steam locomotives with 22,000-gal. tender capacity, from the Lima Locomotive Works. Inquiry for these locomotives, which was incorrectly reported to include 15 locomotives, appeared in the *Railway Age* of February 21.

The UNION PACIFIC has ordered 30 high-speed freight locomotives of the 4-6-6-4

type from the American Locomotive Company. This order is in addition to 20 locomotives of the same type ordered May 25, 1941, for delivery in 1942.

FREIGHT CARS

An inquiry is reported in the market for 1,000 32-ft., 30-ton flat cars for export to Australia.

THE LEHIGH VALLEY has placed an order for 500 hopper coal cars of 50 tons' capacity with the Bethlehem Steel Company.

The DENVER & RIO GRANDE WESTERN is inquiring for 1,500 gondola cars as follows: 1,000 70-ton drop-door, 450 50-ton flat-bottom and 50 70-ton drop-end mill-type gondolas.

The NEW YORK, CHICAGO & ST. LOUIS has ordered 50 standard 70-ton covered steel hopper cars from the American Car & Foundry Co., and 50 50-ton steel flat cars from the Pullman-Standard Car Manufacturing Company.

The NASHVILLE, CHATTANOOGA & ST. LOUIS has ordered 250 hopper cars and 25 50-ft. 6-in. box cars from the Pullman-Standard Car Manufacturing Company. Inquiries for 25 50-ft. 6-in. and 50 52-ft. 6-in. gondola cars are still outstanding. The original inquiry for these cars was reported in the *Railway Age* of February 21.

THE CHICAGO, ROCK ISLAND & PACIFIC is reported to have placed orders for 650 new freight cars as follows: 350 50-ton auto-box cars to the Pressed Steel Car Company and 300 50-ton flat cars to the railroad's own shops. An inquiry by this road for a total of 775 cars including the above was reported in the *Railway Age* of January 10.

SIGNALING

The CITY OF CHICAGO has placed a contract with the Union Switch & Signal Co., Swissvale, Pa., covering the materials necessary for the complete signaling of the new State street subway in that city. Included are the materials required for three Union Style "UR" electro-pneumatic route interlockings which will be installed at the two-track subway connection to the existing four-track elevated at Armitage avenue, at the two-track subway connection to the existing three-track elevated at 18th street, and at a stub end track interlocking in the subway at 13th street. Union electro-pneumatic train stops and subway-type color light signals will be installed throughout. Alternating current track circuits will be used and all relays will be of the plug-in type. In addition to the three Style "UR" control machines, the signaling involves 218 subway-type light signals, 30 Style A-10 electro-pneumatic switch movements, 192 Style "S" electro-pneumatic train stops, and the necessary electric switch locks, factory wired relay racks, instrument housings, etc., with accessory equipment.

Supply Trade

Lima Locomotive Works Annual Report

Sales billed in 1941 by the Lima Locomotive Works amounted to \$16,042,683 and exceeded sales of any prior year since 1926. Net profit totaled \$1,270,145, or \$6.02 per share of capital stock. Significant comparisons follow:

	1941	1940
Sales	\$16,042,683	\$6,801,764
Cost of sales ¹	13,347,399	6,700,106
Profit from operations...	\$2,695,284	\$101,658
Other income (Interest, dividends, etc.)	194,231	87,463
Other charges (Interest, development costs, etc.)	159,370	102,114
Provision for federal income taxes	1,350,000 ²	.....
War contingencies reserve	110,000	.....
Net profit	\$1,270,145	\$87,007

¹Including depreciation charged as follows: 1941—\$164,499; 1940—\$142,555.

²Including \$720,000 for federal excess profits tax.

Current assets at the year's end were \$13,154,647 and current liabilities \$6,291,383, the excess in current assets over current liabilities being \$6,863,264, as compared with \$6,250,632 at the close of 1940. Cash amounted to \$3,503,112, as compared with \$6,338,376 at December 31, 1940. Current liabilities include short-term bank loans of \$1,900,000.

Unfilled orders as of December 31, 1941, (not including certain defense contracts), amounted to \$14,653,800. Orders for 133 locomotives were received during the year which, together with 32 carried over from the previous year, made a total of 165. Fifty locomotives were completed in 1941, leaving 115 scheduled for completion in 1942. The increase in sales of the shovel and crane division contributed largely to the improvement in the company's operations during the year, this division having experienced the most satisfactory year since its organization.

The company's activities in connection with the national defense organization continued on an expanding scale. United States Government purchases of 78 locomotives are included in the locomotive backlog, for early completion.

Samuel G. Allen, chairman of the Board, in the annual report, stated that practically all of the business undertaken by the company during the year was required directly or indirectly for national defense and, therefore, carried high priority ratings, thus insuring comparatively satisfactory deliveries of materials for construction.

Stevens H. Hammond, vice-president of the **Whiting Corporation**, Harvey, Ill., whose election as a member of the executive committee with supervision over all sales activities of that company, was reported in the *Railway Age* of February 14, was born in Chicago on August 30, 1910, and entered business as an office boy for the Whiting Corporation in 1923. From 1923 to 1929, he worked in various departments of the company, including the foundry, Swenson evaporator division, engineering and time study departments. In 1930 Mr. Hammond was appointed a representative of the company's foundry at Birmingham, Ala., and in 1930 was pro-

moted to manager of the personnel department at Harvey. In 1933 he was promoted to assistant to the president and in 1934 he was advanced to vice-president and manager of the Combustion division. The following year Mr. Hammond was appointed vice-president and director of the



Stevens H. Hammond

Underfeed Stoker division and in 1941 he was appointed director of the field force and also elected a member of the board of directors.

E. E. Aldous has been elected president and a director, **L. B. Worthington** vice-president and a director, and **Charles B. Vernooy** comptroller, secretary and a director of the **Scully Steel Products Company**, a subsidiary of the United States Steel Corporation. Mr. Aldous was previously manager of sales for United States Steel Corporation subsidiaries at Houston, Tex. Mr. Worthington had been manager of sales, bar, strip and semi-finished materials of the Carnegie-Illinois Steel Corporation at Pittsburgh, Pa. Mr. Vernooy had been staff assistant of the procedure section of the American Steel & Wire Co. at Cleveland, Ohio.

Mr. Aldous began his service with

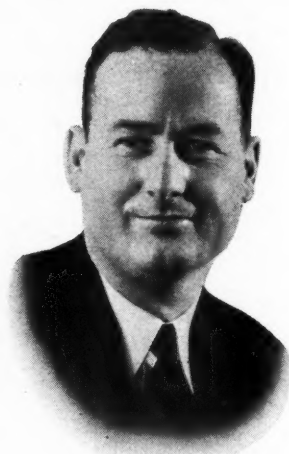


E. E. Aldous

United States Steel Corporation subsidiaries in 1901 in the Denver, Colo., office of American Steel & Wire Co. He served in a sales capacity, at different times covering the entire inter-mountain territory. In 1921 he was transferred to St. Paul, Minn., as manager of sales of the St.

Paul office, of the American Steel & Wire Co., and was transferred in 1929 to Chicago as manager of sales, fence and post department. Mr. Aldous was promoted to manager of sales for United States Steel Corporation subsidiaries at Houston, in 1933, which position he held until his recent promotion.

G. E. Burks, whose promotion to chief engineer of the Caterpillar Tractor Company, with headquarters at Peoria, Ill., was reported in the *Railway Age* of February 21, was born in Montana and attended the University of Montana for one year. He then moved to California, where he acquired his early engineering experience, continuing his studies through extension courses of the University of California. His first experience in the design of heavy machinery was with the Schmeiser Manufacturing Company, Davis, Cal. In 1928 he joined the engineering staff of the Western Harvester Company, Stockton, Cal. (then a subsidiary of the Caterpillar Tractor Company), and a year later he was transferred to the Caterpillar company's engineering offices at San Leandro, Cal. In 1933 he was advanced from chief



G. E. Burks

draftsman to supervision of experimental and research engineering at San Leandro, and in 1938 he was promoted to assistant chief engineer in charge of engine design, with headquarters at Peoria.

T. B. Clement, assistant to the president of the Union Switch & Signal Co., Swissvale, Pa., has been elected a vice-president. Mr. Clement was born in Sunbury, Pa., and graduated from Trinity College, Hartford, Conn., in 1917. In July of that year, he entered the army as a second lieutenant and was assigned to the division staff headquarters of the 28th division as assistant division quartermaster. In March, 1918, he was promoted to a first lieutenant and was commissioned a captain, while in France, in January, 1919. After the war, Mr. Clement entered the employ of the International Mercantile Marine Company as assistant to the operations manager, with headquarters at Philadelphia, Pa. In 1921, he was transferred to the passenger department, and in 1926 he was promoted to manager. In the fall of 1928 he resigned to become general traffic manager of Transcontinental Air Transport, Inc.,

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"THE AMERICAN FREIGHT TRAIN IS EXTENDING ITSELF..."



to help
save
freedom"



"... Before Hitler its average length had been growing, anyway, from thirty-seven cars in 1921 to forty-nine cars two years ago. What it is today, with the enormous new task that national defense imposes on the freight train, is anybody's guess."

(From an article by L. H. Robbins appearing in the February 1, 1942 issue of the NEW YORK TIMES MAGAZINE)

The locomotive is the most important factor in this program to increase train loadings. The only power capable of meeting these demands is modern super-steam power ... power of the type that has recently been delivered by Lima to the Pere Marquette. These twelve 2-8-4 type freight locomotives enable the Pere Marquette to haul fast freights on schedules that closely parallel those of "crack" passenger trains, while heavy freights are operating on schedules that would have been considered good for the fast freights of a few years ago.

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

with headquarters at St. Louis, Mo., and New York. Upon the formation of Transcontinental & Western Air, Inc., in 1930, Mr. Clement was elected a vice-president of that company and on October 1, 1933, he resigned to engage in private business at Philadelphia, Pa. On February 1, 1939,



T. B. Clement

he was appointed assistant to the president of the Union Switch & Signal Company, which position he held until his election as vice-president.

Howard D. Grant, whose election as executive vice-president and chairman of the executive committee of the **Whiting Corporation**, Harvey, Ill., was reported in the *Railway Age* of February 14, was born at Cleveland, Ohio, on November 15, 1896, and graduated in chemical engineering from the University of Michigan in 1921, after serving with the Navy for two years in the first World War. He entered business as a chemical engineer with the Proctor & Gamble Co., in 1921 and joined the Swenson Evaporator division of Whiting Corporation in 1923. Since 1935, Mr. Grant has been an executive of the



Howard D. Grant

Whiting Corporation as well as of the Swenson Evaporator Company. He is a member of the executive committee of the National Metal Trades Association.

John J. Davis, Jr., assistant manager of sales at Chicago of the Railroad Materials and Commercial Forgings division of the **United States Steel Corporation**,

will have charge of that division during the absence of **Orrin H. Baker**, manager of the division, who is serving with the War Production Board at Washington, D. C.

Harmon S. Eberhard, whose election as a vice-president of the Caterpillar Tractor Company, Peoria, Ill., was reported in the *Railway Age* of February 21, was born at Stockton, Cal., and entered the employ of the Holt Manufacturing Company there at the age of sixteen, serving as a draftsman in the engineering department. He enlisted as a private in the Corps of Engineers in World War I and was discharged with the rank of sergeant after spending more than a year overseas. Upon his return to Stockton, Mr. Eberhard was assigned to special development work for the U. S. Ordnance Department on self-propelled track-type gun mounts suited for high speed travel. From 1920 to 1925 he designed commercial products for the Holt Manufacturing Company and in 1925 he went with the engineering staff of the Caterpillar Tractor Company at San Leandro, Cal. In 1928 he was advanced to assistant general chief engineer and in 1930



Harmon S. Eberhard

to chief engineer in charge of research. Mr. Eberhard was transferred to Peoria as chief engineer in 1933, which position he held until his recent promotion. Mr. Eberhard now has administrative direction of research, engineering, manufacturing, industrial relations and training.

OBITUARY

Frank J. Boatright, railway department representative in New England for the Dearborn Chemical Company died February 17.

Christian Davidson, Sr., a former vice-president of the Ryan Car Company, Chicago, (no longer in existence) died on February 21 at his home in Chicago.

John M. Lammadee, mechanical engineer for the Wilson Engineering Company, Chicago, and at one time a mechanical editor for the *Railway Review*, died suddenly of a heart attack at his office on February 21.

James Harvey Williams, president of J. H. Williams & Co., of New York and Buffalo, N. Y., died in New York on February 23.

Construction

ERIE.—This company has awarded contracts for the reconstruction of pier no. 1, mooring rack and portions of dock no. 2, in Jersey City, N. J., to the George W. Rogers Construction Company of New York; for the restoration of the portion of the Standard Milling Company's building in Jersey City damaged by fire, to the George Seigler Company of Jersey City; and for alterations and additions to pier no. 48 in New York to Miller-Blyth, Inc., of New York. Total cost of these construction projects is estimated at \$622,000.

NEW YORK, NEW HAVEN & HARTFORD.—This company has authorized the construction of an extension to its bridge at Towners, N. Y., at estimated cost of \$45,000, and the reconstruction of its bridge at Providence, R. I., at estimated cost of \$30,000.

PENNSYLVANIA.—The Pennsylvania Public Utility Commission has approved plans calling for the relocation or abandonment of certain tracks of the Allegheny branch of this company's Conemaugh division in Pittsburgh, Pa., and, also, the removal of the present crossing protections in certain streets, and the substitution and addition, in lieu thereof, of standard intersection traffic lights, railroad flashing-light signals, railroad fixed signals, pedestrian stop lights, standard railroad highway crossing signs with letters in reflector buttons, and other equipment. Total cost of the improvement is estimated at \$27,795.

PENNSYLVANIA.—Bids will be opened March 14 in the office of the United States Engineer, Pittsburgh, Pa., for the construction and relocation of the Alexandria and Dundale branches of the Pennsylvania in West Moreland County, Va. These tracks are at present located in the reservoir of the Loyalhanna dam, a flood control project, and are expected to be flooded. The work will include the construction of 16,740 lin. ft. of main track and 3,120 lin. ft. of side track, and also the construction of a new station building and raised platform. The existing station at New Alexandria will be dismantled. The contract is to be completed in 150 days.

READING.—This company has awarded a contract for repairs and alterations to its passenger station at Phoenixville, Pa., at estimated cost of \$41,811, to C. Raymond Davis of Kimberton, Pa.

ST. LOUIS SOUTHWESTERN.—This company has been authorized by Division 4 of the Interstate Commerce Commission to construct an extension of its line from Pine Bluff, Ark., in a northwesterly direction, to the southern boundary of the Pine Bluff Arsenal Reservation, where it will connect with track to be constructed as a connection and as a part of the government reservation, 4.4 miles. This company has also been authorized to operate over the track on the reservation, 1.5 miles.

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THE PROGRESS REPORT OF THE RAILROAD DIVISION OF THE A.S.M.E. FOR 1940-41 STATES:

"...road tests showed the capability of the poppet valve locomotive to meet the fastest schedules"

"The disclosure of the results of laboratory and road tests of this locomotive*, equipped with the Franklin (oscillating-cam poppet-valve) system of steam distribution, is an outstanding event of the current year. In road tests, the locomotive, which has two 27-in. x 28-in. cylinders, 205 psi working pressure, and 80-in. drivers, developed a maximum horsepower of 2980 at 60-65 mph. Compared with the results of the A.A.R. passenger-train tests, previously reported in this series of papers, the gain in drawbar horsepower was 24 per cent at 60 mph, 33 per cent at 70 mph, and 44 per cent at 80 mph. With a 1000-ton train on level track, the poppet-valve engine attained 88 mph, and the original engine 78.5 mph. In general, the road tests showed the capability of the poppet-valve locomotive to meet the fastest schedules on the fast Fort Wayne-Chicago Division with trains of 13 cars. On the test plant, the locomotive developed a maximum indicated horsepower of 4267 at 75 mph and 4100 at 100 mph. With a steam consumption of 70,000 lb, the engine used about one seventh less steam per indicated horsepower at moderate speeds, and the improvement in economy increased to more than 30 per cent at 100 mph."

*The well-known K-4 Class of the Pennsylvania Railroad.

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Steam
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**FRANKLIN RAILWAY SUPPLY
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NEW YORK

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In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

Financial

ATCHISON, TOPEKA & SANTA FE.—New Director.—W. Laird Dean, president of the Merchants National Bank, Topeka, Kan., was elected a director of the Atchison, Topeka & Santa Fe at the regular monthly director's meeting at New York on February 24.

BALTIMORE & OHIO.—Tax Status of Contingent Interest.—In response to the request of numerous holders of securities of this road and its subsidiary roads—the Buffalo, Rochester & Pittsburgh and Cincinnati, Indianapolis & Western—which securities were modified as to interest and maturity provisions under a readjustment plan dated August 15, 1938, the Commissioner of Internal Revenue issued a ruling on February 9, 1942, respecting the taxable status of the contingent interest that had accrued on such securities, either at date of modification, or at date of acquisition (this in case of a security bearing contingent interest acquired subsequent to date of modification), when the same is collected.

The Commissioner stated: "The fair market value of the above bonds on the effective date of the exchanges included the right to receive the contingent interest constitutes a return of a portion of the basis. It is accordingly held that the receipt of the contingent interest accrued (to the extent it was accrued when the bonds were acquired either at the time of modification or subsequent thereto) constituted a partial return of the investment and was not a collection of the interest within the meaning of taxable income."

CENTRAL OF GEORGIA.—Compensation of Counsel.—Division 4 of the Interstate Commerce Commission has approved a maximum compensation of \$16,000 a year for T. M. Cunningham as counsel for the trustee of this company during reorganization proceedings under section 77 of the Bankruptcy Act.

CHICAGO & NORTH WESTERN.—Equipment Trust Certificates.—This road awarded a \$3,750,000 issue of equipment trust certificates to the First Boston Corporation and associates on February 25, on a bid of 100.284 for 2½s, representing an interest cost to the carrier of approx. 2.444. The certificates, which mature in one to ten years, were re-offered publicly at prices to yield 0.85 to 2.80, according to maturity.

CHICAGO & NORTH WESTERN.—Abandonment.—Acting on the request of the federal district court of Illinois, the Interstate Commerce Commission, through Commissioner Porter, has postponed from February 20, to March 12, the effective date of its order in Finance Docket No. 13172 wherein it authorized this company to abandon a line between Hastings, Nebr., and Linwood, 102 miles. As pointed out in last week's issue, the Nebraska State Railway Commission has given formal authority to the state attorney general to begin court action to prevent the abandonment of the line. Previously, the state commission had asked the I. C. C. to

reconsider its decision, but its request was denied, and the road was authorized to proceed with the abandonment on February 20.

DELAWARE, LACKAWANNA & WESTERN.—Debt Reduction.—William White, president of this road, told stockholders at their annual meeting held in New York on February 24 that the company "reduced its debt in 1941 by \$4,652,000, the more important items of which were \$2,000,000 repayment of loan made by the Reconstruction Finance Corporation, \$900,000 bank loan repaid, \$933,681 in back taxes paid to New Jersey and \$700,000 of equipment obligations paid off. The company invested \$763,476 in the securities of its leased lines, the par value of which was \$1,433,000. The reduction of debt saved \$75,000 in annual interest."

Discussing the increase in earnings in 1941, Mr. White reported gross revenue of \$61,111,360, an increase of 18 per cent. He said that had the 1926 fares and rates been in effect last year, net income would have been \$9,500,000 more than the \$3,671,697, or \$2.17 per common share actually realized. He said that the largest increase in revenue had come from merchandise traffic, reflecting expanding activity of the war program. He added, however, that the increased burden upon railroad transportation caused by diversion of freight to the rails, and the rationing of tires and gasoline, might necessitate the rationing of railroad transportation to give priorities to war materials and foodstuffs.

"If the rationing of rail transportation proves to be unavoidable," said Mr. White, "it should not be viewed any differently, nor should it be regarded as more difficult to accept, than other rationing. To win the war it will be necessary to have maximum utilization of locomotives and cars, as well as of essential service, in order to handle both passenger and freight traffic." The president pointed out that in 1941 the average freight car load handled by the Lackawanna was 25.11 tons, compared with 23.8 tons the previous year. Average freight train tonnage was 2,363 in 1941, an increase of 12 per cent compared with 1940.

CHICAGO, ROCK ISLAND & PACIFIC.—Reorganization Expenses.—Division 4 of the Interstate Commerce Commission has determined the amounts of claims for allowances of compensation for services rendered and the reimbursement of expenses in this company's reorganization case. Out of a total amount claimed by counsel of \$2,206,434, Division 4 allowed only \$1,048,416. One group of counsel composed of Harry Kirschbaum, Michael Gesas and Louis Cohen, representing several holders of debtor's convertible bonds, asked for \$31,402 and were awarded nothing. The amounts claimed by many law firms were cut in half, a typical example being that of Root, Clark, Buckner & Ballantine, counsel for the Chicago, Rock Island & Pacific first and refunding mortgage and secured 4½ per cent series A mortgage bondholders protective committee, who claimed \$362,635 and received \$153,199.

DENVER & RIO GRANDE WESTERN.—Control of the Denver & Salt Lake.—As a

result of a further hearing in the reopened Finance Docket No. 8070, Denver & Salt Lake Railway Company Control, the Interstate Commerce Commission has made the following findings:

1. That statements made at the hearing and on brief and oral argument upon the application of the Denver & Rio Grande Western to acquire control of the Denver & Salt Lake by purchase of capital stock and upon which the commission relied in part in granting the application and imposing certain conditions were erroneous and misleading.

2. That facts pertinent to a proper disposition of the application within the knowledge of the applicant's responsible officers and known by them to be pertinent to a proper determination of the application were not disclosed.

3. That no good purpose would be served by revoking and modifying the order, as amended, authorizing the acquisition by the applicant of control of the Denver & Salt Lake.

The commission report goes on to point out that since the authority to purchase control of the Denver & Salt Lake by acquiring certain stock at \$155 a share was granted some 12 years ago, no good purpose would be served at this time by ordering the D. & R. G. W. to divest itself of the stock. Moreover, it is noted that such an order would in no way penalize the company in view of the fact that the stock is now in the possession of the Reconstruction Finance Corporation as security for claims against the company's estate which is in the process of reorganization under section 77 of the Bankruptcy Act.

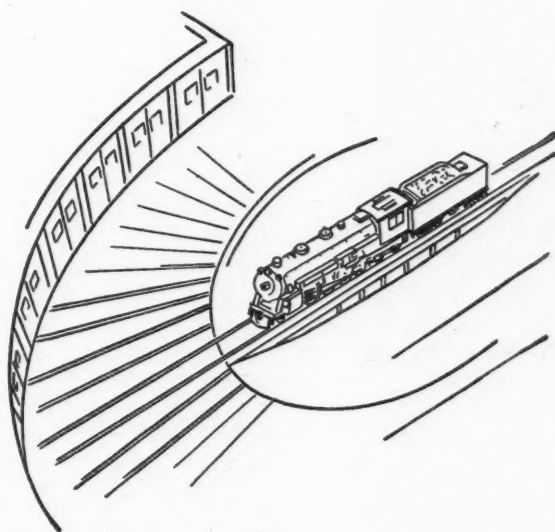
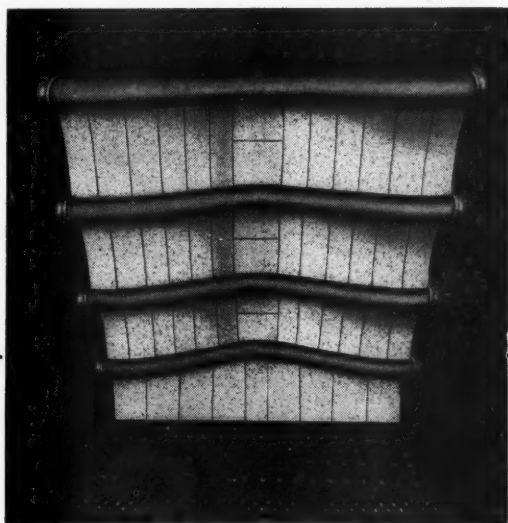
Commissioner Mahaffie wrote a short dissenting opinion in which he was joined by Commissioner Johnson. "The report approved by the majority," wrote Commissioner Mahaffie, "makes it entirely clear that we were misled as to the price paid for the majority stock. As a consequence we attached as a condition of our approval the requirement that the applicant buy minority holdings at a price as high as \$155 per share. Had the facts then been known to us that price could not have exceeded \$150 per share. We now have the facts. Based on this record, the order should be modified to correspond with them."

ERIE.—Acquisition of Subsidiaries and Assumption of Liability.—This reorganized company has asked the Interstate Commerce Commission for authority to purchase the property and assets of some 10 of its subsidiaries. The subsidiaries to be acquired are: The Arlington; Bergen County; Bergen & Dundee; Docks Connecting; Long Dock; New York, Lake Erie & Western Docks & Improvement; Newark & Hudson; Paterson, Newark & New York; Penhorn Creek; and the Erie Terminals.

At the same time the reorganized company seeks authority to assume the liability for the payment of the principal and interest of \$2,960,000 of five per cent first mortgage bonds of the New York, Lake Erie & Western Docks & Improvement, outstanding with the public and due July 1, 1943, and \$7,500,000 of consolidated

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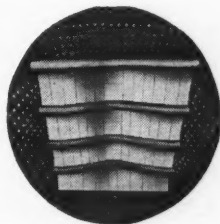
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mortgage $3\frac{3}{4}$ per cent bonds of the Long Dock, outstanding with the public and due October 1, 1950.

FREDERICKSBURG & NORTHERN.—Abandonment.—This company and the State National Bank of San Antonio, Tex., have asked the Interstate Commerce Commission for authority to abandon a line extending from Fredericksburg, Tex., to Fredericksburg Junction, 23.4 miles.

LIVE OAK, PERRY & GULF.—Stock.—This company has been authorized by Division 4 of the Interstate Commerce Commission to issue 6,000 shares of capital stock with a par value of \$40 a share, in exchange, on a share for share basis, for an equal number of shares of outstanding capital stock with a par value of \$100 a share.

MINNEAPOLIS, NORTHFIELD & SOUTHERN.—Stock.—This company has been authorized to issue \$705,000 of common capital stock, consisting of 7,050 shares of a par value of \$100 a share, to be distributed as a stock dividend. Because the amount of common stock now issued plus the amount to be issued will exceed the total amount permitted by the articles of incorporation, the commission's permission is granted with the proviso that the articles of incorporation will be amended to permit an increase in the number of shares of common stock.

MISSISSIPPI & SKUNA VALLEY.—Stock.—This company has requested authority from the Interstate Commerce Commission to issue \$80,000 of common capital stock consisting of 2,000 shares of a par value to \$40, to be exchanged for a like amount of shares of a par value of \$75 in order that it may reduce its common capital stock from \$150,000 to \$80,000. The company proposes to return \$35 in cash to each holder of a share of stock because it has accumulated cash in excess of its requirements. The difficulty of investing excess funds is cited as the reason for taking the step to reduce the capitalization.

NEW JERSEY & NEW YORK.—Compensation of Trustee and Counsel.—Division 4 of the Interstate Commerce Commission has approved the payment of \$6,000 a year to Peter Duryee, trustee, and Walter T. Margetts, Jr., counsel to the trustee, for their services to this company during reorganization proceedings under section 77 of the Bankruptcy Act.

READING.—Abandonment by the Schuylkill Valley Navigation & Railroad.—The Schuylkill Valley Navigation & Railroad and the Reading, respectively, have been authorized to abandon the Brockville branch extending northerly from Brockton, Pa., 1,060 ft., and the operation thereof.

ST. LOUIS SOUTHWESTERN.—Compensation of Trustee and Counsel.—Division 4 of the Interstate Commerce Commission has approved a maximum salary of \$20,000 a year for Berrymen Henwood, trustee of this company, and \$14,000 a year for A. H. Kiskaddon, general counsel to the trustee, for their services in connection with the reorganization of this company under section 77 of the Bankruptcy Act. Mr. Hen-

wood had asked the commission to revise upward his and Mr. Kiskaddon's salaries, requesting that they be set at \$24,000 and \$15,000 a year, respectively.

SEABOARD AIR LINE.—Abandonment.—This company has asked the Interstate Commerce Commission for authority to abandon its Pell City branch extending from a connection with its main line at Wattsville, Ala., to Pell City, eight miles.

TENNESSEE CENTRAL.—Equipment Trust Certificates and RFC Financing.—This company has asked the Interstate Commerce Commission to approve a plan whereby it would issue and sell to the Reconstruction Finance Corporation \$342,000 of $2\frac{3}{4}$ per cent equipment trust certificates, maturing in 20 semiannual installments of \$18,000 on January 1, and July 1, 1943, and of \$17,000 on January 1, and July 1, in each of the years thereafter to and including July 1, 1952. The proceeds will be used as part of the purchase price of new equipment costing a total of \$380,000 and consisting of 100 all-steel hopper coal cars, and two 660 h.p. Diesel-electric switching locomotives.

TUCKERTON.—Deficit Status.—Division 4 of the Interstate Commerce Commission has found that this company is not entitled to benefit under section 204 of the Transportation Act of 1920, as amended January 7, 1941, and has dismissed its claim. Examination of the carrier's accounts for the period from July 1, 1918, to February 29, 1920, inclusive, being the 20 months of the federal control period during which it was privately operated, says the commission's decision, shows that it earned a net railway operating income of \$20,111, and that its income for the corresponding months of the test period was \$17,073. Therefore, the decision continues, the sum of \$20,111 (income) minus the \$17,073 of the test period income, is a credit of \$3,038 to the United States Government. The report also notes that the road was abandoned and its property sold to a scrap dealer in 1936.

UNION PACIFIC.—Abandonment by the St. Joseph & Grand Island.—The St. Joseph & Grand Island and the Union Pacific, respectively, have asked the Interstate Commerce Commission for authority to abandon the Highland branch extending from the main line at Stout, Kans., to the end of the branch at Highland, 6.9 miles, and the operation thereof.

Average Prices of Stocks and Bonds

	Feb. 24	Last week	Last year
Average price of 20 representative railway stocks..	28.22	28.32	29.30
Average price of 20 representative railway bonds..	65.94	65.68	62.15

Dividends Declared

Alabama & Vicksburg.—Capital, 3 per cent, semi-annually, payable April 1 to holders of record March 7.
Chesapeake & Ohio.—Common, 7 $\frac{1}{2}$ ¢, quarterly; 4 Per Cent Non-cumulative, Series A Preferred, \$1.00, quarterly, both payable April 1 to holders of record March 6.
Erie & Pittsburgh.—Common, 87 $\frac{1}{2}$ ¢; 7 Per Cent Guaranteed, 80¢, quarterly, both payable March 10 to holders of record February 28.
Vicksburg, Shreveport & Pacific.—Preferred, 2 $\frac{1}{2}$ per cent, semi-annually; Common, 2 $\frac{1}{2}$ per cent, semi-annually, both payable April 1 to holders of record March 7.

Railway Officers

EXECUTIVES

W. R. Rouse, general attorney on the Union Pacific at Omaha, Neb., has been promoted to assistant to the vice-president, with the same headquarters, succeeding to



W. R. Rouse

a portion of the duties of **Jessie Lee Haugh**, vice-president, who resignation on March 1 is reported elsewhere in these columns. Mr. Rouse entered the service of the Union Pacific in 1911 in the engineering department. He was transferred to the contract department in 1918 as assistant chief clerk and later that year joined the law department. Mr. Rouse was promoted to attorney in 1924, to assistant general attorney in 1936 and to general attorney on August 1, 1939.

Paul A. Walsh, whose promotion to assistant to the vice-president-traffic of the Northern Pacific, with headquarters at St. Paul, Minn., was reported in the *Railway Age* of February 21, was born at Austin,

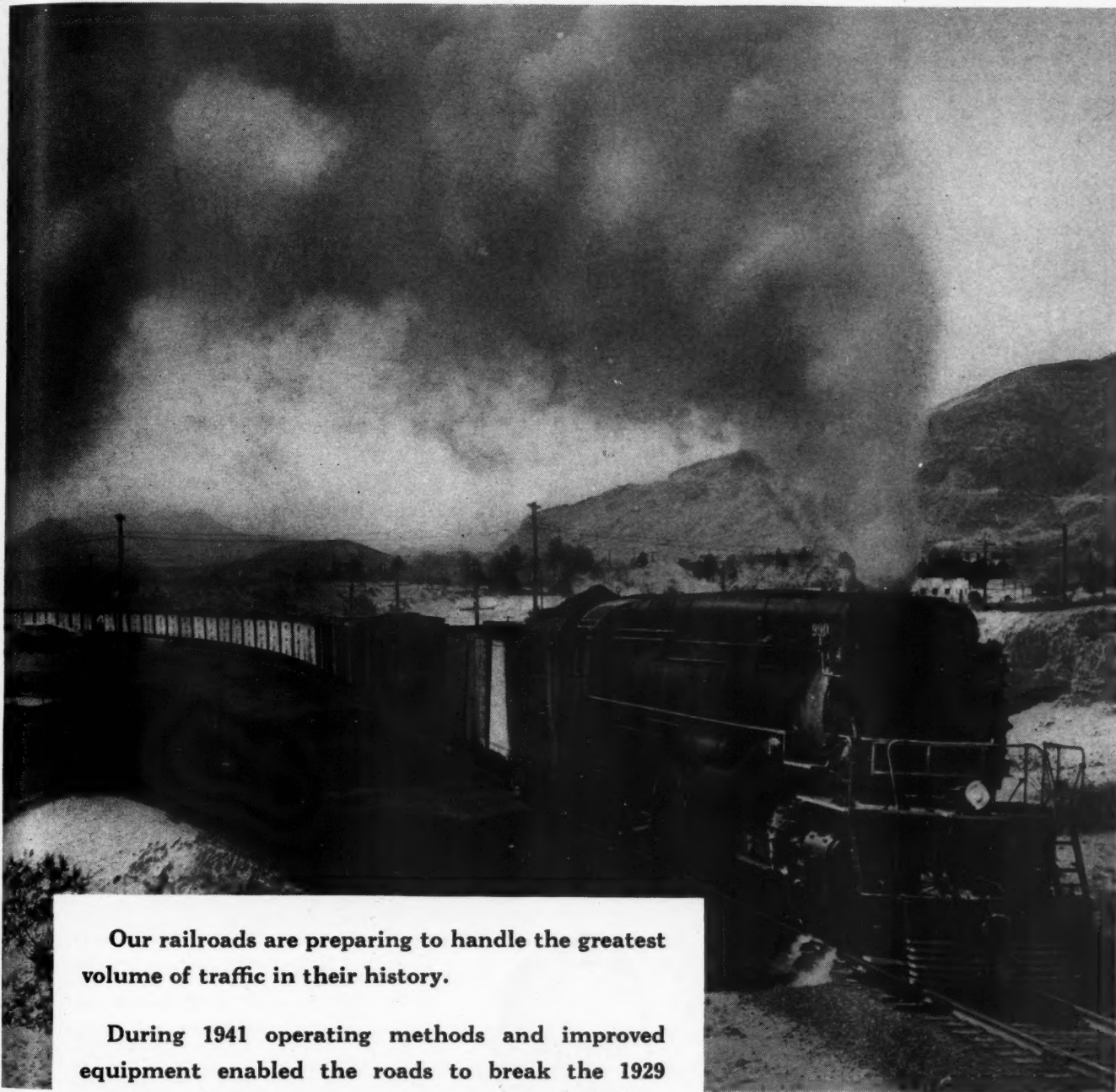


Paul A. Walsh

Pa., on February 8, 1904, and entered railway service on the Northern Pacific on June 14, 1920. From January 1, 1922, to December 1, 1935, he served in the rate and tariff departments of the general freight department at Seattle, Wash., and

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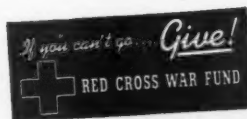
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on the latter date he was advanced to assistant general freight agent at St. Paul, which position he held until his recent promotion, effective February 16.

Jesse Lee Haugh, vice-president of the Union Pacific, with headquarters at Omaha, Neb., has resigned, effective March 1, and will move to Oakland, Cal., where he will serve as chairman of the board of Pacific City Lines, a company which operates bus lines in various cities in the states of California, Montana and Washington. Mr. Haugh was born at Sodus, Mich., on October 17, 1887, and after spending two years at the University of Michigan and one year at the University of Wisconsin, entered railroad service in 1904 as a rodman on the Cleveland, Cincinnati, Chicago & St. Louis. In the following year he became a draftsman on the Chicago & North Western, and was then advanced successively through the positions of topographer, instrumentman, resident engineer and assistant engineer. From 1918 to 1920 Mr. Haugh served as engineering assistant to the regional director of the Northwestern region of the United States Railroad



Jesse Lee Haugh

Administration, where he remained until March 1 of the latter year, when he was appointed assistant to the president of the Union Pacific. On September 1, 1929, Mr. Haugh was elected a vice-president of the Union Pacific. In 1939 and 1940 he served as president and a director of the Omaha Chamber of Commerce and is a member of the Board of Regents of the University of Omaha.

James J. Thompson, whose promotion to mechanical assistant to the president of the Tennessee Central, with headquarters at Nashville, Tenn., was reported in the *Railway Age* of February 14, was born at Roanoke, Va., on September 7, 1906, and attended Virginia Military Institute, Lexington, Va. He entered railway service in February, 1925, as a messenger in the statistical bureau of the Norfolk & Western at Roanoke, Va., transferring to the mechanical department a month later as a helper machinist in the erecting shop. He later returned to school but served subsequently between school terms and then regularly in the Roanoke shops, at Pittsburgh, Pa., Bluefield, W. Va., and the Shaffers Crossing roundhouse as special apprentice, material inspector and shop in-

spector. On September 1, 1937, Mr. Thompson was transferred to the operating department as an assistant road foreman of engines at Roanoke, later being transferred to Crewe, Va., and then being promoted to assistant trainmaster, in which ca-



James J. Thompson

capacity he served on the Radford, Pocahontas and Shenandoah divisions. On November 31, 1941, Mr. Thompson resigned to go with the Tennessee Central as a special representative in the general manager's office, which position he held until his recent promotion, effective January 1.

John G. Brennan, whose appointment as assistant to vice-president of the New York Central system, with headquarters at Washington, D. C., was reported in the *Railway Age* of January 31, was born at Syracuse, N. Y., and educated at Syracuse University. He entered railroad service on April 23, 1906, as chairman in the maintenance of way department of the New York Central at Buffalo, N. Y., and in June, 1907, he was transferred to the engineering department as rodman on grade revision of the West Shore west of Syra-



John G. Brennan

cuse. Mr. Brennan then served successively as transitman in charge of field party on the construction of grade crossing elimination, Buffalo Belt Line, and draftsman and assistant engineer on various construction jobs on grade revision and third tracking, Syracuse Junction branch, Fox Ridge and Syracuse Barge Canal crossings. In

1918 he was resident engineer on the Tonawanda change of line in connection with the elimination of the grade crossings in Tonawanda and North Tonawanda. He was appointed assistant district engineer of the Western district, with headquarters at Buffalo, on January 1, 1920, and assistant engineer in charge of construction of the Middle district, with headquarters at Albany on June 1, 1922. Mr. Brennan became engineer of grade crossings, Buffalo and East, on October 1, 1924, at New York, holding that position until May 1, 1935, when he was transferred on deputed service to the Association of American Railroads, with headquarters at Washington, D. C., becoming secretary of the National Committee on Grade Crossing Elimination, and engineer of grade crossings of that association, as liaison officer with the Public Roads Administration in connection with the federal grade crossing program. Mr. Brennan also acted as Washington representative of the Committee on Waterway Projects of the A. A. R. and as contact representative of that committee with the corps of engineers in relation to inland waterways and flood control projects. Mr. Brennan returned to the service of the New York Central system on January 16, 1942, as assistant to vice-president and will continue to act as secretary of the A. A. R. Committee on Grade Crossing Elimination and contact representative with the Public Roads Administration.

OPERATING

Marvin Bell has been appointed trainmaster on the Southern Pacific Lines in Texas and Louisiana at El Paso, Tex., succeeding **L. F. Tadlock**, promoted.

J. G. Brannon, superintendent of the Eastern division of the Texas & Pacific, has been transferred to the Western division, with headquarters as before at Ft. Worth, Tex., succeeding **L. L. Oliver**, deceased. **R. C. Parker**, assistant to the vice-president-operation, with headquarters at Dallas, Tex., has been appointed superintendent of the Eastern division, relieving Mr. Brannon. **E. E. Smith** has been appointed assistant to the vice-president-operation at Dallas, replacing Mr. Parker.

William O. R. Hannan, superintendent of the Missouri division of the Railway Express Agency, with headquarters at St. Louis, Mo., has been transferred to the Washington (D. C.) division, succeeding **C. W. Turner**, whose appointment as manager, government express transportation, was reported in the *Railway Age* of February 14. **E. H. Goodrich**, superintendent of the Jacksonville (Fla.) division, has been transferred to the Missouri division at St. Louis, to succeed Mr. Hannan. **O. K. Lewis** in the vice-president's office at Atlanta, Ga., has been appointed superintendent at Jacksonville, replacing Mr. Goodrich.

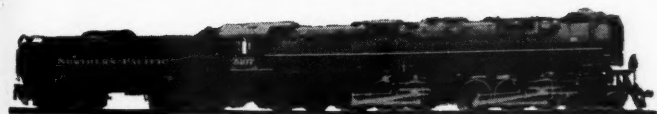
Paul W. Triplett, whose appointment as superintendent of the Delmarva division of the Pennsylvania at Cape Charles, Va., was reported in the *Railway Age* of February 21, was born at Elkins, W. Va., on May 14, 1904. He attended LaSalle In-



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Now here is a modern design, the Alco 4-6-6-4 articulated type locomotive which has won widespread approval for its ability to handle heavier freight trains at higher speeds and with reduced maintenance.

Alco to date has delivered, or has on order, 188 of these locomotives for the Union Pacific, Northern Pacific, Spokane, Portland and Seattle, Delaware and Hudson, Western Pacific and the Clinchfield.



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stitute at Cumberland, Md., and was graduated from the University of Maryland in 1927 with a B.S. degree in civil engineering. Mr. Triplett entered the service of the Pennsylvania as an assistant on the engineering corps at Washington, D. C., on June 25, 1927, and on June 16, 1928, he was transferred to the New York division. On September 8, 1928, he was appointed



Paul W. Triplett

assistant supervisor of the Middle division at Hollidaysburg, Pa., and on January 1, 1929, he was transferred to the Philadelphia division at Lamoyne, Pa. He returned to the Middle division as assistant supervisor on March 25, 1929, and on August 1, 1929, he was promoted to supervisor of the Cresson division, which position he held successively on the Sunbury, Maryland, Atlantic and Chicago Terminal divisions. On March 1, 1938, he became assistant division engineer of the New York division at Jersey City, N. J., and was promoted to division engineer of the Renovo division on April 1, 1939. On April 11, 1940, he became division engineer on the Long Island, which position he held until his recent appointment.

J. P. Nye, auditor of the Rapid City, Black Hills & Western, has been elected also general manager, with headquarters as before at Rapid City, S. D., succeeding **S. A. Hearn**, who retired on February 1.

D. E. Clark, trainmaster on the Southern at Birmingham, Ala., has been promoted to superintendent of the Mobile division, with headquarters at Selma, Ala., succeeding **E. M. Tolleson**, who has been transferred to Hattiesburg, Miss. Mr. Tolleson relieves **W. W. Simpson**, who has been transferred to the Birmingham division at Birmingham, replacing **Frederick W. Okie**, who has been commissioned a lieutenant-colonel U. S. Army Engineers, as reported in the *Railway Age* of February 21. **K. C. Shults**, trainmaster at Oakdale, Tenn., has been transferred to Birmingham, succeeding Mr. Clark. **J. P. Kelly**, trainmaster at Valdosta, Ga., has been transferred to Birmingham, relieving **W. W. Greiner**, who has also been granted a leave of absence to enter military service. Other transfers of trainmasters are as follows: **W. H. Oglesby** from Oakdale, Tenn., to Birmingham; **W. K. Mahone** from Somerset, Ky., to Oakdale; **R. J. Stone** from Selma, Ala., to Valdosta,

Ga., and **E. R. Oliver, Jr.**, from Knoxville, Tenn., to Selma.

Mr. Clark entered the service of the Southern in 1915 as a stenographer in the superintendent's office at Louisville, Ky. He later served at secretary to the general superintendent and general manager. In 1925 he was appointed assistant trainmaster at Birmingham and on May 1, 1929, he was promoted to trainmaster at Valdosta. He was transferred to Strasburg, Va., in 1937, and to Birmingham on December 1, 1939.

FINANCIAL, LEGAL AND ACCOUNTING

A. C. Leigh has been appointed assistant treasurer and transfer agent of the Missouri-Kansas-Texas, with headquarters at New York. **Miss E. P. Sutton** has been appointed assistant secretary and **E. Lyner** has been appointed cashier. **D. W. Richter** has been appointed assistant transfer agent and **V. Cashman** has been appointed assistant cashier. All the above have their headquarters at New York.

W. H. Hulsizer, valuation, land and tax officer of the Union Pacific, with headquarters at Omaha, Neb., has been promoted to the newly created position of



W. H. Hulsizer

manager of properties, in charge of land, tax and valuation matters, with the same headquarters. **Francis J. Melia**, assistant general attorney at Omaha, has been appointed contracts attorney, with the same headquarters, succeeding to a portion of the duties formerly handled by **W. R. Rouse**, whose promotion to assistant to the vice-president is reported elsewhere in these columns.

Mr. Hulsizer was born at Flemington, N. J., on September 25, 1885, and graduated in civil engineering from Princeton University in 1907. For several years he engaged in building construction work in northern New York state and in Canada and in railroad location work. In May, 1910, he entered the service of the Union Pacific as a special clerk in the valuation bureau of the engineering department, later serving in various capacities in the valuation and engineering department. In August, 1924, he was promoted to valuation engineer and in January, 1932, he was appointed valuation officer. Mr. Hulsizer

was advanced to valuation, land and tax officer in 1933.

TRAFFIC

G. F. Allen, district freight and passenger agent for the Union Pacific at Washington, D. C., has been appointed general agent, with the same headquarters, a change of title.

C. H. Jacques, in the general freight office of the St. Louis Southwestern at St. Louis, Mo., has been promoted to assistant general freight agent, with the same headquarters, succeeding **James C. Winfield**, whose death on January 22 was reported in the *Railway Age* of February 21.

Robert H. Holmes, general agent for the Southern Pacific at Spokane, Wash., has been promoted to acting district freight and passenger agent at Medford, Ore., succeeding **A. S. Rosenbaum**, who has been granted a leave of absence because of illness. **Edgar C. Ordway** traveling freight agent at Eugene, Ore., has been advanced to general agent at Spokane, replacing Mr. Holmes.

Charles J. Collins, passenger traffic manager of the Union Pacific, with headquarters at Omaha, Neb., has been promoted to general passenger traffic manager, with the same headquarters, succeeding **William S. Basinger**, who will retire on March 1.

Mr. Collins was born at Columbus, Ohio, on May 26, 1887, and entered railway service in 1907 as a ticket seller at the Union Station at that point. Two years later he became assistant ticket agent for the Pennsylvania at Columbus, and in 1910 he was advanced to city passenger agent. Mr. Collins entered Union Pacific service in 1913 as traveling agent at Cincinnati, Ohio, and from 1916 to 1926 he was representative and then manager of the Union Pacific-Chicago & North Western department of tours at Chicago. He was promoted to general passenger agent on the Union Pacific at Portland, Ore., in 1926, and was transferred to Omaha in 1927.



Charles J. Collins

On January 1, 1931, he was promoted to assistant passenger traffic manager, with headquarters at Omaha, and on February 16, 1940, he was advanced to passenger traffic manager, the position he held until his recent promotion.

Mr. Basinger was born at Savannah, Ga.,

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WESTINGHOUSE AIR BRAKE COMPANY

WILMERDING, PENNSYLVANIA

on August 28, 1870, and entered railway service as a clerk for the Kansas City, Ft. Scott and Memphis (now part of the St. Louis-San Francisco) at Kansas City, Mo., in 1891, and in October of that year he went with the Union Pacific at Kansas City, as a clerk in the office of the general agent. Six years later he entered the operating department of the Leavenworth, Kansas & Western (now part of the Union Pacific), at Leavenworth, Kan. In October, 1903, he was appointed superintendent of that road, and two years later became general agent. He was appointed trainmaster on the Union Pacific, with headquarters at Kansas City, in April, 1905, and in July, 1907, became assistant general passenger agent at Omaha. Following this service, he was for three years assistant to the director of traffic of the Harriman lines, with headquarters at New York and Chicago. He returned to the Union Pacific as general passenger agent, with headquarters at Omaha, in March, 1913, and on March 1, 1918, he was appointed assistant in the division of traffic of the United States Railroad Administration at Washington, D. C. When the railroads returned to private control, Mr. Basinger returned to the Union Pacific as assistant passenger



William S. Basinger

traffic manager at Omaha, and on September 1, 1920, he was promoted to passenger traffic manager, with the same headquarters. On February 16, 1940, he was advanced to general passenger traffic manager.

ENGINEERING & SIGNALING

Fred L. Thompson, vice-president in charge of the engineering department of the Illinois Central will retire on March 1. His duties will be assumed by **Charles H. Mottier**, chief engineer.

Irvin LeRoy Simmons, bridge engineer of the Chicago, Rock Island & Pacific, with headquarters at Chicago, will retire on March 1 after more than 43 years railroad service. Mr. Simmons was born at Hanover, Mich., on September 10, 1872, and graduated in mechanical engineering from Michigan State College in 1897. He entered railway service on April 20, 1898, as a draftsman in the bridge department of the Illinois Central and on May 1, 1900, he went with the Chicago, Milwaukee, St. Paul & Pacific. In October, 1902, he left railroad service to become a draftsman

for Ericson & Lehman and in March, 1903, he went with the Rock Island as an assistant engineer. In February, 1907, Mr. Simmons was promoted to bridge inspector and in September, 1909, he was advanced to bridge engineer, with headquarters at Chicago, which position he held until his retirement.

MECHANICAL

J. A. Crunk has been appointed master mechanic of the Tennessee Central, with headquarters at Nashville, Tenn.

A. H. Adang has been appointed general foreman at the Conneaut, Ohio shops of the New York, Chicago & St. Louis.

John C. Gunning, roundhouse foreman on the Union Pacific at Ogden, Utah, has been promoted to master mechanic at Salt Lake City, Utah.

J. C. Miller, general and erecting foreman of the New York, Chicago & St. Louis at Conneaut, Ohio, has been appointed superintendent of shops, with headquarters at Conneaut.

John Gogerty, superintendent of motive power and machinery of the Eastern district of the Union Pacific, has been promoted to general superintendent of motive power and machinery, with headquarters as before at Omaha, Neb., and **R. F. Weiss**, assistant to the vice-president, research and mechanical standards, at Omaha, has been appointed superintendent of motive power and machinery of the Eastern district, succeeding Mr. Gogerty.

PURCHASES AND STORES

William A. Summerhays, who has been on a leave of absence from the Illinois Central, serving at Washington, D. C., as a consultant to the Office of Production Management, has been appointed assistant to the vice-president, purchases and stores, with headquarters at Chicago.

SPECIAL

Alfred S. Kline, whose promotion to chief special agent of the Missouri Pacific, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of February 7, was born at St. Charles, Mo., and entered railway service on August 3, 1914, on the Chicago, Rock Island & Pacific, serving for three years in various clerical and stenographic capacities at Biddle, Ark., and Little Rock. From July 18, 1917, to June 10, 1919, Mr. Kline served with U. S. Army, seeing service in France and advancing from private to lieutenant in the Ordnance department. He returned to the Rock Island on the latter date and served as assistant maintenance of way clerk and maintenance of way clerk at El Dorado, Ark., and special accountant and clerk at Little Rock until January 22, 1920, when he resigned to go with F. W. Woolworth Company as a clerk at New Orleans. On March 1, 1920, he returned to railroad service as clerk to the special agent of the Missouri Pacific at Little Rock and then served successively as special officer, rate

clerk in the passenger department and special officer at that point. On March 1, 1924, he was promoted to sergeant at McGehee, Ark., and nine months later he was advanced to special agent, later being transferred successively to Little Rock, Ft. Smith, Ark., Little Rock, Coffeerville, Kan.,



Alfred S. Kline

and Ft. Smith. On May 16, 1938, Mr. Kline was advanced to assistant chief special agent, with headquarters at Kansas City, which position he held until his recent promotion, effective February 1.

OBITUARY

W. N. Adams, executive general agent of the Kansas City Southern-Louisiana & Arkansas Lines at New Orleans, La., died on February 16.

Adrian H. Larkin, chairman of the board of the Virginian, with headquarters at New York, died on February 23 at his home in that city after an illness of several months, at the age of 76. Mr. Larkin was born at Ossining, N. Y., on June 6, 1865, and attended Princeton University, receiving his M.A. degree in 1890. He was a member of the law firm of Larkin, Rathbone & Perry, New York, at the time of his death.

F. D. UNDERWOOD

Frederick Douglass Underwood, former president of the Erie at New York, died of pneumonia on February 18 at his home in New York after a week's illness, at the age of 93. Mr. Underwood was born at Wauwatosa, Wis., on February 1, 1849, and entered railroad service in 1868 with the Chicago, Milwaukee & St. Paul (now Chicago, Milwaukee, St. Paul & Pacific), serving in various capacities including brakeman, conductor, foreman of elevators, yardmaster and special agent to superintendent. He then became general superintendent and general manager, successively, on the Minneapolis, St. Paul & Sault Ste. Marie. In 1899 he went with the Baltimore & Ohio as vice-president and general manager. On May 1, 1901, Mr. Underwood was elected president of the Erie and subsidiary lines and on March 1, 1920, he was also elected chairman of the executive committee of the board of directors, which positions he held until his retirement on December 31, 1926, after 58 years of active railway service.



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Freight Operating Statistics of Large Steam Railways—Selected Items

Region, road, and year	Miles of road operated	Train-miles	Locomotive-miles		Car-miles		Ton-miles (thousands)		Number of road locomotives on line					
			Principal and helper	Light	Loaded (thousands)	Per cent loaded	Gross excluding locomotives and tenders	Net revenue and non-revenue	Serviceable		Un-serv-ice-able	Per cent un-serv-ice-able		
									Not stored	Stored				
New England Region:														
Boston & Albany	1941	362	159,938	171,845	15,287	3,707	66.5	214,271	79,247	62	13	13	14.8	
1940	362	158,118	164,104	11,934	3,329	62.9	198,612	70,339	56	6	24	27.9		
Boston & Maine	1941	1,854	337,238	385,088	31,670	12,235	69.3	709,839	281,386	136	11	24	14.0	
1940	1,894	306,636	345,634	29,763	10,396	66.6	608,726	230,851	130	..	35	21.2		
N. Y., New Hav. & Hartf.†	1941	1,816	433,060	550,032	47,258	16,164	69.6	880,591	342,793	204	3	58	21.1	
1940	1,830	386,775	482,906	33,501	13,488	64.7	768,070	287,961	197	1	65	27.4		
Great Lakes Region:														
Delaware & Hudson	1941	849	322,496	371,313	41,398	11,800	64.6	792,795	379,593	137	27	73	30.8	
1940	844	254,468	296,680	33,833	9,145	61.7	596,889	282,158	114	51	79	32.4		
Del., Lack & Western	1941	982	379,460	433,201	60,604	15,252	69.8	928,582	401,087	141	17	41	20.6	
1940	983	370,892	424,536	56,418	13,242	66.5	789,557	309,510	138	9	59	28.6		
Erie†	1941	2,251	826,231	870,793	50,525	36,101	67.3	2,225,025	904,922	255	61	97	23.5	
1940	2,266	729,079	774,630	50,012	31,350	65.0	1,953,429	761,777	244	5	174	41.1		
Grand Trunk Western	1941	1,023	279,663	285,021	2,248	8,274	62.7	522,662	194,697	71	..	15	17.4	
1940	1,023	280,563	286,702	1,924	8,108	60.8	512,235	177,577	74	1	26	25.7		
Lehigh Valley	1941	1,251	391,692	428,062	71,325	15,599	66.2	1,007,668	444,920	129	21	41	21.5	
1940	1,252	365,523	399,135	60,332	13,877	65.1	881,243	371,394	111	2	78	40.8		
New York Central	1941	10,518	3,370,229	3,609,081	217,107	114,781	60.1	7,887,792	3,377,663	1,084	77	222	16.1	
1940	10,563	2,992,316	3,161,304	209,170	100,770	58.4	6,971,579	2,895,706	955	71	366	26.3		
N. Y., Chicago & St. Louis	1941	1,672	719,762	732,395	11,030	24,650	65.3	1,557,521	635,343	144	2	17	10.4	
1940	1,672	570,252	582,739	7,589	20,462	62.1	1,296,990	495,026	131	11	25	15.0		
Pere Marquette	1941	2,051	402,636	410,481	7,898	11,264	62.6	741,192	302,791	130	6	28	17.1	
1940	2,068	391,589	402,777	7,863	10,565	57.7	710,183	262,292	125	1	32	20.3		
Pittsburgh & Lake Erie	1941	232	97,152	100,101	68	3,861	63.6	324,075	186,235	44	..	12	21.4	
1940	233	83,230	86,032	120	3,266	61.0	272,737	151,127	31	11	19	31.1		
Wabash*	1941	2,397	652,566	669,728	13,607	21,776	66.1	1,333,700	512,950	151	25	82	31.8	
1940	2,397	605,328	618,109	12,347	19,035	61.8	1,187,461	424,311	137	20	107	40.5		
Central Eastern Region:														
Baltimore & Ohio	1941	6,238	2,069,036	2,558,621	268,952	63,745	62.0	4,462,603	2,036,445	857	62	224	19.6	
1940	6,261	1,636,462	2,021,857	211,496	50,909	60.5	3,578,364	1,593,587	721	141	311	26.5		
Central of New Jersey†	1941	661	211,215	238,479	46,950	6,410	61.8	450,171	218,411	95	21	31	21.1	
1940	679	186,975	209,215	39,818	6,161	62.2	427,031	206,623	80	15	51	34.9		
Chicago & Eastern Illinois	1941	925	194,585	195,235	3,908	5,126	64.3	338,664	149,030	63	1	25	28.1	
1940	925	182,170	183,129	3,177	4,694	63.8	303,220	130,635	58	3	31	33.7		
Elgin, Joliet & Eastern	1941	390	146,291	148,012	1,455	3,972	58.7	314,496	157,559	69	..	10	12.7	
1940	390	130,469	132,152	1,626	3,293	55.2	269,944	130,990	63	..	14	18.2		
Long Island	1941	374	28,910	30,161	18,882	284	53.6	20,755	8,076	34	4	8	17.4	
1940	375	27,662	28,225	17,922	283	52.8	21,352	8,188	38	4	6	12.5		
Pennsylvania System	1941	9,947	4,096,496	4,805,708	602,979	149,408	61.6	10,384,177	4,678,844	1,764	136	236	11.0	
1940	9,962	3,227,016	3,850,583	447,907	118,072	59.0	8,268,255	3,561,332	1,349	140	692	31.7		
Reading	1941	1,430	542,847	602,060	72,229	15,780	62.0	1,163,781	580,274	242	24	58	17.9	
1940	1,432	463,216	516,290	68,462	14,176	61.2	1,059,307	525,705	223	11	120	33.9		
Pocahontas Region:														
Chesapeake & Ohio	1941	3,053	948,411	1,006,848	41,794	40,195	56.4	3,356,536	1,828,954	439	23	50	9.8	
1940	3,060	818,993	863,518	37,121	34,842	56.1	2,861,805	1,530,287	404	66	45	8.7		
Norfolk & Western	1941	2,159	741,176	782,995	50,126	31,510	57.1	2,619,931	1,378,028	299	9	22	6.7	
1940	2,169	663,448	701,173	42,018	29,089	57.4	2,388,076	1,236,131	297	26	27	7.7		
Southern Region:														
Atlantic Coast Line	1941	4,986	839,329	853,232	11,691	18,700	60.5	1,194,033	457,230	293	..	32	9.8	
1940	5,073	754,623	765,653	10,366	15,934	56.9	1,031,600	355,889	276	4	43	13.3		
Central of Georgia†	1941	1,783	310,485	314,494	4,689	6,898	68.9	417,340	173,869	103	..	16	13.4	
1940	1,831	272,185	273,863	5,057	5,885	67.2	346,101	131,664	94	..	27	22.3		
Gulf, Mobile & Ohio	1941	1,962	274,159	322,617	1,532	8,711	69.9	532,008	232,705	95	3	9	8.4	
1940	1,963	246,660	268,259	1,345	7,153	68.3	425,439	176,794	87	5	9	8.9		
Illinois Central (incl. Y. & M. V.)	1941	6,501	1,655,153	1,665,072	29,884	49,492	62.4	3,361,262	1,480,735	600	22	79	11.3	
1940	6,557	1,365,558	1,372,021	24,551	38,878	58.8	2,658,647	1,097,801	572	19	181	23.4		
Louisville & Nashville	1941	4,794	1,364,550	1,461,285	36,314	31,736	60.6	2,259,199	1,080,581	359	40	58	12.7	
1940	4,862	1,181,168	1,272,211	35,082	28,589	59.2	2,037,018	958,130	360	35	65	14.1		
Seaboard Air Line*	1941	4,295	824,018	860,857	7,574	19,683	63.0	1,266,932	518,630	265	..	37	12.3	
1940	4,298	691,225	718,009	4,395	17,032	60.8	1,076,006	402,692	251	2	49	16.2		
Southern	1941	6,469	1,828,499	1,877,720	28,657	39,747	64.1	2,490,139	1,038,538	556	..	108	16.3	
1940	6,537	1,510,066	1,538,191	23,155	34,034	64.2	2,056,817	821,210	495	..	141	22.2		
Northwestern Region:														
Chicago & North Western†	1941	8,264	978,696	1,017,877	23,261	30,521	64.0	1,980,202	808,806	334	42	192	33.8	
1940	8,316	908,133	945,379	19,306	27,089	60.7	1,788,679	704,314	316	27	254	42.5		
Chicago Great Western	1941	1,447	289,719	294,017	10,231	8,742	65.3	549,315	211,533	73	1	9	10.8	
1940	1,447	290,496	295,514	10,212	8,350	60.1	547,091	198,588	70	..	15	17.6		
Chi., Milw., St. P. & Pac.†	1941	10,813	1,424,656	1,485,727	62,244	44,222	63.6	2,928,520	1,264,192	481	75	81	12.7	
1940	10,846	1,318,382	1,381,957	55,800	38,146	58.8	2,572,383	1,029,263	436	63	126	20.2		
Chi., St. P., Minn. & Omaha	1941	1,618	238,671	254,201	12,548	5,924	67.5	370,315	155,965	109	11	9	7.0	
1940	1,618	234,794	248,558	12,479	5,317	61.6	343,744	135,594	110	8	13	9.9		
Great Northern	1941	7,981	1,087,172	1,082,258	34,275	37,268	66.3	2,452,773	1,052,997	342	55	95	19.3	
1940	7,970	889,104	885,864	27,912	27,813	62.3	1,831,034	728,652	338	43	138	26.6		
Minneapolis, St. P. & S. St. M.†	1941	4,261	451,607	460,503	7,376	11,167	65.2	712,186	306,231	129	2	8	5.8	
1940	4,247	407,754	413,234	3,836	9,083	62.9	572,193	232,380	110	1	13	10.5		
Northern Pacific	1941	6,593	870,515	923,200	61,677	32,009	71.7	2,000,034	922,303	364	10	74	16.5	
1940	6,422	686,227	724,097	41,554	23,099	69.0	1,402,825	598,368	330	37	78	17.5		
Central Western Region:														
Alton	1941	915	229,926	252,387	1,145	5,575	65.8	353,173	160,624	67	..	6	8.2	
1940	914	201,825	219,959	1,041	4,557	60.4	317,689	115,462	57	10	13	16.3		
Atch														

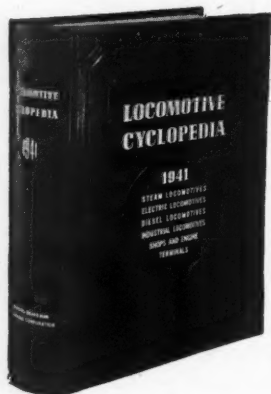
for the Month of December, 1941, Compared with December, 1940

For the Month of December, 1941, Compared with December, 1940														Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Loco-motive miles per locomotive-day
Region, road, and year	Number of freight cars on line			Per cent un-serv-ice-able	Gross ton-miles per train-hour, excluding locomotives and tenders	Gross ton-miles per train-mile, excluding locomotives and tenders	Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Net ton-miles per mile of road per day	Net ton-miles per mile of road per day	Net ton-miles per mile of road per day	
	Home	Foreign	Total												
New England Region:															
Boston & Albany	1941	578	4,946	5,524	0.6	22,763	1,356	501	21.4	448	31.5	7,062	166	74.4	
1940		742	5,970	6,712	1.3	21,140	1,277	452	21.1	358	26.9	6,268	165	71.1	
Boston & Maine	1941	3,497	10,063	13,560	2.2	29,547	2,110	837	23.0	683	42.9	4,896	101	82.7	
1940		4,318	7,979	12,297	2.8	28,175	1,992	756	22.2	592	40.0	3,932	104	79.0	
N. Y., New Hav. & Hartf.†	1941	4,567	17,808	22,375	2.1	29,412	2,068	805	21.2	504	34.1	6,089	108	80.1	
1940		6,446	12,531	18,977	4.3	28,259	2,022	758	21.3	461	33.4	5,076	114	71.5	
Great Lakes Region:															
Delaware & Hudson.....	1941	6,788	4,626	11,414	3.9	39,586	2,475	1,185	32.2	1,091	52.5	14,423	108	59.2	
1940		7,819	3,878	11,697	4.2	36,856	2,360	1,116	30.9	780	41.0	10,784	124	46.0	
Del., Lack & Western.....	1941	8,781	9,745	18,526	3.2	41,588	2,467	1,066	26.3	694	37.8	13,175	129	83.0	
1940		10,445	6,008	16,453	4.1	37,959	2,149	842	23.4	601	38.6	10,157	138	79.0	
Erie†	1941	13,752	20,899	34,651	2.0	46,814	2,713	1,103	25.1	835	49.5	12,968	100	78.8	
1940		13,874	15,167	29,041	2.9	46,265	2,701	1,053	24.3	812	51.4	10,844	102	69.2	
Grand Trunk Western.....	1941	4,082	6,953	11,035	4.3	36,354	1,886	702	23.5	553	37.5	6,139	91	114.4	
1940		3,786	8,662	12,448	5.8	34,770	1,838	637	21.9	465	34.9	5,600	101	98.6	
Lehigh Valley	1941	8,890	14,385	23,275	1.0	46,921	2,622	1,158	28.5	623	33.0	11,473	121	91.6	
1940		9,339	9,815	19,154	1.5	46,730	2,456	1,035	26.8	629	36.1	9,569	108	77.5	
New York Central.....	1941	69,992	73,541	143,533	4.8	38,956	2,363	1,012	29.4	765	43.3	10,359	106	99.6	
1940		78,204	60,144	138,348	8.7	38,934	2,346	974	28.7	676	40.3	8,843	107	87.2	
N. Y., Chicago & St. Louis.....	1941	5,253	10,340	15,593	1.7	40,132	2,170	885	25.8	1,267	75.2	12,258	98	155.4	
1940		6,159	8,371	14,530	2.8	42,064	2,279	870	24.2	1,083	72.1	9,551	93	122.4	
Pere Marquette	1941	7,317	7,002	14,319	2.8	32,534	1,852	756	26.9	678	40.3	4,762	100	89.8	
1940		8,426	7,408	15,834	2.6	30,670	1,822	673	24.8	540	37.7	4,091	102	91.0	
Pittsburgh & Lake Erie.....	1941	9,265	7,319	16,584	7.8	43,407	3,350	1,925	48.2	362	11.8	25,895	96	60.7	
1940		11,741	5,403	17,144	12.1	42,344	3,290	1,823	46.3	282	10.0	20,923	91	49.9	
Wabash*	1941	9,271	11,355	20,626	0.9	41,853	2,062	793	23.6	788	50.7	6,903	117	89.6	
1940		11,008	10,015	21,023	2.9	40,116	1,983	708	22.3	650	47.2	5,710	121	80.4	
Central Eastern Region:															
Baltimore & Ohio.....	1941	49,919	33,198	83,117	2.2	29,452	2,194	1,001	31.9	771	38.9	10,531	151	84.1	
1940		50,961	26,376	77,337	5.5	30,017	2,219	988	31.3	655	34.6	8,211	151	64.5	
Central of New Jersey†	1941	7,630	15,625	23,255	2.0	27,701	2,217	1,076	34.1	298	14.2	10,659	142	83.5	
1940		7,159	11,619	18,778	8.4	29,659	2,428	1,175	33.5	356	17.1	9,816	130	71.4	
Chicago & Eastern Illinois.....	1941	2,696	2,780	5,476	3.3	31,288	1,758	773	29.1	808	43.2	5,197	133	76.2	
1940		2,694	3,208	5,902	6.0	30,731	1,680	724	27.8	705	39.7	4,556	135	68.5	
Elgin, Joliet & Eastern.....	1941	8,794	8,890	17,684	2.5	15,090	2,219	1,112	39.7	290	12.4	13,032	134	99.7	
1940		9,358	7,316	16,674	2.1	17,490	2,122	1,030	39.8	260	11.8	10,835	130	83.9	
Long Island	1941	53	3,601	3,654	0.6	5,351	739	287	28.4	74	4.9	697	342	46.6	
1940		100	3,124	3,224	1.6	5,900	788	302	28.9	79	5.2	704	345	46.4	
Pennsylvania System	1941	155,460	92,891	248,351	5.6	35,978	2,598	1,171	31.3	608	31.5	15,174	123	89.8	
1940		173,484	60,162	233,646	14.4	37,576	2,616	1,127	30.2	488	27.4	11,532	117	70.3	
Reading	1941	19,876	18,537	38,413	6.3	26,809	2,150	1,072	36.8	489	21.5	13,090	142	76.4	
1940		21,716	14,667	36,383	12.6	28,031	2,295	1,139	37.1	467	20.6	11,842	135	63.9	
Pocahontas Region:															
Chesapeake & Ohio.....	1941	44,034	11,046	55,080	0.8	50,537	3,589	1,956	45.5	1,026	40.0	19,325	82	75.5	
1940		47,348	9,120	56,468	1.5	51,242	3,536	1,891	43.9	861	35.0	16,132	84	63.5	
Norfolk & Western.....	1941	41,433	5,941	47,374	0.9	56,601	3,600	1,894	43.7	1,021	40.9	20,589	97	87.8	
1940		43,723	5,332	49,055	2.0	56,361	3,653	1,891	42.5	851	34.9	18,384	98	74.4	
Southern Region:															
Atlantic Coast Line.....	1941	11,585	11,419	23,004	4.6	24,223	1,430	548	24.5	667	45.1	2,958	115	90.6	
1940		13,830	10,301	24,131	12.9	24,021	1,371	473	22.3	488	38.5	2,263	116	85.1	
Central of Georgia†	1941	3,692	5,007	8,699	0.4	25,981	1,358	566	25.2	670	38.6	3,146	124	93.2	
1940		4,767	3,612	8,379	3.3	25,246	1,277	486	22.4	525	34.9	2,320	126	80.8	
Gulf, Mobile & Ohio.....	1941	3,354	4,371	7,725	1.6	35,477	1,947	852	26.7	947	50.7	3,826	113	102.6	
1940		3,905	3,106	7,011	4.2	32,331	1,725	717	24.7	823	48.8	2,905	114	88.1	
Illinois Central (incl. Y. & M. V.)	1941	29,341	21,128	50,469	1.1	33,862	2,075	914	29.9	931	49.8	7,347	129	82.9	
1940		31,177	15,295	46,472	2.1	32,094	1,974	815	28.2	769	46.3	5,401	141	62.4	
Louisville & Nashville.....	1941	40,002	12,045	52,047	1.6	25,437	1,659	793	34.0	693	33.6	7,271	137	112.3	
1940		38,031	9,217	47,248	4.7	27,526	1,727	812	33.5	667	33.6	6,357	130	96.4	
Seaboard Air Line*	1941	9,818	11,771	21,589	1.6	25,725	1,573	644	26.3	764	46.0	3,895	133	103.5	
1940		11,763	8,962	20,725	2.5	26,907	1,590	595	23.6	637	44.3	3,022	126	86.6	
Southern	1941	19,891	24,936	44,827	3.9	22,985	1,378	575	26.1	743	44.3	5,179	153	97.3	
1940		21,738	21,475	43,213	9.4	23,565	1,374	549	24.1	610	39.4	4,052	146	83.4	
Northwestern Region:															
Chicago & North Western†	1941	30,645	26,712	57,357	3.9	31,601	2,086	852	26.5	458	27.0	3,157	129	63.6	
1940		32,823	28,233	61,056	4.8	30,418	2,015	793	26.0	397	25.1	2,732	126	56.2	
Chicago Great Western	1941	1,826	3,662	5,488	1.0	35,490	1,899	731	24.2	1,216	77.0	4,716	123	123.7	
1940		2,166	3,309	5,475	1.5	34,528	1,886	685	23.8	1,127	78.8	4,427	132	121.9	
Chi., Milw., St. P. & Pac.†	1941	37,152	21,373	58,525	1.3	33,547	2,065	891	28.6	698	38.4	3,771	123	85.7	
1940		42,478	18,926	61,404	2.7	31,888	1,960	784	27.0	535	33.7	3,061	127	81.0	
Chi., St. P., Minn. & Omaha	1941	1,524	6,110	7,634	4.7	21,768	1,569	661	26.3	611	34.4	3,109	122	70.5	
1940		2,361	5,849	8,210	7.1	19,655	1,488	587	25.5	525	33.4	2,703	129	68.3	
Great Northern	1941	28,740	12,239	40,979	2.2	35,133	2,272	975	28.3	788	42.1	4,256	113	78.5	
1940		31,941	9,674	41,615	3.5	33,532	2,068	823	26.2	567	34.7	2,949	123	61.1	
Minneapolis, St. P. & S. St. M.†	1941	10,678	5,006	15,684	2.6	27,847	1,582	680	27.4	640	35.8	2,318	109	110.3	
1940		11,738	4,227	15,965	4.0	24,308	1,409	572	25.6	474	29.5	1,765	113	108.6	
Northern Pacific	1941	25,055	8,120	33,175	5.6	37,203	2,317	1,068	28.8	891	43.2	4,513	133	78.1	
1940		26,888	5,759												

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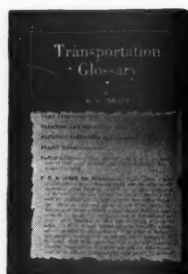
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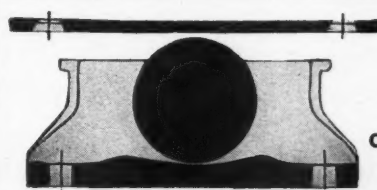
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